

Annexure-A- Tariff Formats

AGNOOR

Checklist of Forms and other information/ documents for tariff filing for AGNOOR Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility:
 Name of the Hydro Power Station
 Region

Bihar State Hydroelectrical Power Corporation Ltd.
 Agnoor
 State Bihar District Jahanabad

(Rs. in Cr.)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	0.73	1.10	1.51	1.92	2.33	2.74	5.26
#	Interest on Loan	FORM- 13A	1.12	1.12	0.88	0.88	0.88	0.88	-
#	Return on Equity ¹		0.00	0.01	0.02	0.04	0.04	0.04	0.02
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.04	0.03	0.04	0.04	0.03	0.03	0.03
#	O & M Expenses	FORM- 17	0.21	0.22	0.24	0.23	0.15	0.14	0.22
			2.10	2.49	2.70	3.11	3.44	3.84	5.54

1 Details of calculations to be furnished.

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FORM-2

Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION : Agnoor

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	1 (2X500 kW)
2	Free power to home state	%	
3	Date of commercial operation		
—	Unit-		Jun-06
—	Unit-		Jun-06
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Purely ROR
—	c) Peaking/non-peaking		Non peaking
—	d) No. of hours of peaking		NA
—	e) Overload capacity(MW) & period		NA
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	5
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	4.95
10	Primary Energy Rate	paise/Kwh	2.49
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

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FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Agnoor

1. Location	
State/Distt.	Bihar/Arwal
River	Agnoor fall on Sone Easter Main canal
2. Diversion Tunnel	
Size, shape	Trapezoidal
Length	380 m
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	
Number and Size	
Particle size to be removed(mm)	
7. Head Race Tunnel	
Size and type	NA
Length	NA
Design discharge(Cumecs)	NA
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	
Diameter & Length	
10. Power House	
Type	Surface type
Installed capacity (No of units x MW)	4 X 500 kW
Peaking capacity during lean period (MW)	NA
Type of turbine	S- Tubular
Rated Head(M)	3
Rated Discharge(Cumecs)	41.4
11. Tail Race Tunnel	
Diameter, shape	Trapezoidal
Length	160 m
Minimum tail water level	NA
12. Switchyard	
Type of Switch gear	Air circuit breaker
No. of generator bays	1
No. of Bus coupler bays	
No. of line bays	2

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

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FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station _____ Agnoor Small HEP

(Amount in lakhs)

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency²												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency³ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest	—	—	—	—	—	—	—	—	—	—	—	
At the end of Financial year	—	—	—	—	—	—	—	—	—	—	—	

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

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FORM-5

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd
Name of the Hydro Power Station : Agnoor Small HEP

(Amt. in Cr.)

Capital cost admitted as on -----	<u>FY 2010-11</u>	<u>FY 2011-12</u>	<u>FY 2012-13</u>	<u>FY 2013-14</u>	<u>FY 2014-15</u>	<u>FY 2015-16</u>	<u>FY 2023-24</u>
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
—							
Foreign Component, if any (In Million US \$ or the relevant Currency)	NIL	NIL	NIL	NIL	NIL	NIL	NIL
—							
<u>Total Cap Cost Domestic Component (Rs. Cr.)</u>	8.24	8.24	9.11	9.12	9.12	9.12	9.12
—							
Foreign Exchange rate considered for the admitted cost	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<u>Total Capital cost to be admitted (Rs. Cr)</u>	<u>8.24</u>	<u>8.24</u>	<u>9.11</u>	<u>9.12</u>	<u>9.12</u>	<u>9.12</u>	<u>9.12</u>

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Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projectsName of the **Utility / Company** : Bihar State Hydroelectrical Power Corporation LtdName of the **Hydro Power Station** : Agnoor**New Projects** Yes Under construction

Name of the Authority approving the project Bihar govt.

Date of approval of the Capital cost

Estimated Cost**Completed Cost**

Price level of approved estimates

As of End of Qtr. Of

As on Scheduled COD of

Foreign Exchange rate considered for the

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Not Applicable

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

APPLICANT

FORM-5B						
Break up of Capital cost (for hydro power generating station)						
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd						
NAME OF Hydro POWER STATION: Agnoor Small HEP						
(Rs. in lakhs)						
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost in order dt. 15.12.21
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development	6.54				
1.2	Land	7.6	2.82			
1.3	Buildings	20.78				
1.4	Township	0.54				
1.5	Maintenance	1.2				
1.6	Tools & Plants	2.59				
1.7	Communication	1.26				
1.8	Environment & Ecology	0.27				
1.9	Losses on stock	0.3				
1.1	Receipt & Recoveries	-3.75				
1.11	Total (Infrastructure works)	37.33	2.82			
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers	29.88	1123.7			
2.2	HRT, TRT, Surge Shaft & Pressure shafts	11.89				
2.3	Power Plant civil works	64.5				
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)	4.69				
2.5	Total (Major Civil Works)	110.96	1123.7			
3	Hydro Mechanical equipments					
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment	3.64				
4.2	Total (Plant & Equipment)	173.56	792.34			
5	Taxes and Duties					
5.1	Custom Duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning	13.55				
6.2	Construction Insurance	7.22				
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)	20.77				
7	Overheads					
7.1	Establishment	25.25				
7.2	Design & Engineering	1.48				
7.3	Audit & Accounts					
7.4	Contingency	4.93				
7.5	Rehabilitation & Resettlement	0.38				
7.6	Total (Overheads)	32.04				
8	Capital Cost without IDC & FC	374.66				
9	Financing charges (FC)	1.75				
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC	797	1918.86	1121.86		810

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

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FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Agnoor

(Rs. in lakhs)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost (all
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package	100	792.34			
1.2	Turbine package					
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)	100				
2	Auxiliary Electrical Equipment					
2.1	Step up transformer	8.2				
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board	2.5				
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding	4				
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)	14.7				
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane	18.38				
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)	18.38				
4	Switchyard package	2.52				
5	Initial spares for all above equipments	1.24				
6	Total (Plant & Equipment)	169.92	792.34			

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FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Agnoor						
Sl.No.	Name/No. of Constructi on / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completio n of Work	Value of Award ¹ in (Rs. lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs.lakhs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Nippon Power Ltd.	Civil	DCB	2	28.5.99	28.11.2000		362.24	337.88	700.12
	Nippon Power Ltd.	E/M	DCE	2	28.5.99	28.11.2000		506	23.7	529.7

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

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FORM- 6**Financial Package upto COD**

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station Agnoor
Project Cost as on COD¹ NA
Date of Commercial Operation of the Station² Jun-06

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I NABARD						
Loan-II GOB	Indian Rs.	842	Indian Rs.	842	Indian Rs.	842
Loan-III			Indian Rs.	1005.18	Indian Rs.	1005.18
and so on						
Equity-						
Foreign -	-	-	-	-	-	-
Domestic	Indian Rs.	71.69	Indian Rs.	71.69	Indian Rs.	71.69
Total Equity	Indian Rs.	71.69	Indian Rs.	71.69	Indian Rs.	71.69
Debt : Equity Ratio	Indian Rs.	11.75	Indian Rs.	11.75	Indian Rs.	11.75

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Details of Project Specific Loans

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB					
Currency ²	Indian Rs					
Amount of Loan sanctioned	842					
Amount of Gross Loan drawn upto 31.06.06/COD ^{3,4,5,13,15}	842					
Interest Type ⁶	Fixed					
Fixed Interest Rate, if applicable	13%					
Base Rate, if Floating Interest ⁷	Nil					
Margin, if Floating Interest ⁸	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	1 year					
Moratorium effective from	10.2.2003					
Repayment Period ¹¹	10 year					
Repayment effective from	10.2.2004					
Repayment Frequency ¹²	Annual					
Repayment Instalment ^{13,14}	84.2					
Base Exchange Rate ¹⁶						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

FORM- 8

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given seperately in the same form.

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.

¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.

Name of Hydro Power Station: Agnoor

(Amount in Cr.)					
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.14		0.14
2	2011-12	Plant & Machinery	-		-
3	2012-13	Plant & Machinery	0.88		0.88
4	2013-14	Plant & Machinery	0.01		0.01
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		-
7	2023-24	Plant & Machinery	-		-
	Total		1.02		1.02

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased along with any equipment, then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs. etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

Date of Commercial Operation:

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.14	-	0.88	0.0084	0.0001	-	-
Financing Details							
Loan-1							
Loan-2							
Loan-3 and so on							
Total Loan ²	0.09	-	0.61	0.0059	0.0001	-	-
Equity	0.04	-	0.26	0.0025	0.0000	-	-
Internal Resources							
Others							
Total	0.14	-	0.88	0.0084	0.0001	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.37	0.37	0.41	0.41	0.41	0.41	0.41
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.37	0.37	0.41	0.41	0.41	0.41	0.41
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount							
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.37	0.37	0.41	0.41	0.41	0.41	0.41
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.73	1.10	1.51	1.92	2.33	2.74	5.26

¹ Depreciation recovered in Tariff upto _____ to be furnished with yearwise details in the same form separately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.10 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Not Applicable			
2				
3				
4				
5				
6				
7				
8				
9				
10				
18				
19				
20				
21				
22				
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Power Station: Agnoor

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	842	842	842	842	842	842
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	842	842	842	842	842	842
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	842	842	842	842	842	842
	Repayment (s) of Loans during the year						
	Net loan - Closing	842	842	842	842	842	842
	Average Net Loan						
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	112.17	112.17	88.41	88.41	88.41	88.41
	Total Loan						
	Gross loan - Opening	842	842	842	842	842	842
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	842	842	842	842	842	842
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	842	842	842	842	842	842
	Repayment (s) of Loans during the year						
	Net loan - Closing	842	842	842	842	842	842
	Average Net Loan						
	Interest on loan	112.17	112.17	88.41	88.41	88.41	88.41
	Weighted average Rate of Interest on Loans	13%	13%	10.50%	10.50%	10.50%	10.50%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Agnoor

Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
1/10th of the Loan(s)							
Repayment of the Loan(s) as considered for working out Interest on Loan							
Minimum of the Above							
Less: Depreciation during the year							
(A ¹)							
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan							
Less: Cumulative Depreciation							
(B ¹)							
Advance Against Depreciation (Minimum of A & B)							

Not Applicable

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company
Name of the Hydro Power Station

Bihar State Hydroelectric Power Corporation Ltd.
Agnoor

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.02	0.02	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	0.09	0.09	0.10	0.10	0.10	0.10	0.10
3	Recievables	0.22	0.21	0.21	0.21	0.19	0.18	0.20
	Total Working Capital	0.33	0.33	0.33	0.33	0.30	0.29	0.32
	Rate of Interest	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%
	Interest on Working Capital	0.04	0.03	0.04	0.04	0.03	0.03	0.03

Applicant

Name of the Utility / Compan Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station Agnoor

Draw Down Schedule for Calculation of IDC & Financing Charges

(Amount in Lakhs)																
Sl. No.	Draw Down															
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans															
1.1	Foreign Loans															
1.1.1	Foreign Loan 1															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.2	Foreign Loan 2															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.3	Foreign Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.4	--															
	--															
	--															
1.1	Total Foreign Loans															
	Draw down Amount															
	IDC															
	Financing charges															
1.2	Indian Loans															
1.2.1	Indian Loan 1															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.2	Indian Loan 2															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.3	Indian Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.4	--															
	--															
	--															
1.2	Total Indian Loans															
	Draw down Amount															
	IDC															
	Financing charges															
1	Total of Loans drawn															
	IDC															
	Financing charges															
2	Equity															
2.1	Foreign equity drawn															
2.2	Indian equity drawn															
	Total equity deployed															

Not Applicable

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility :Bihar State Hydroelectric Power Corporation Ltd.

Name of the Power Station : Agnoor

(Rs. In Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance + O&M							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.21	0.22	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered , if any							
	Net Expenses							

Notes:

- I. The process of allocation of corporate expenses to generating stations should be specified
 II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained
 III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

ARWAL		
Checklist of Forms and other information/ documents for tariff filing for Arwal Hydro Power Generating Station		
Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Propasal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓
Other Information/ Documents		
Sl. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencing Business, Memorandum of Association & Article of Association (for new station set up by a company making tariff application for the first time to CERC)	-
2	Stationwise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the station and for the relevant years.	Submitted with true-up petition
3	Copies of relevant loan agreements	Submitted with true-up petition
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	
5	Copies of the Equity participation agreements and necessary approval for the foreign equity	-
6	Copies of the BPSA/PPA with the beneficiaries, if any	-
7	Detailed note giving reasons of time and cost over run, if applicable.	-
8	Any other relevant information (if any, to be specified)	-

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility:						Bihar State Hydroelectrical Power Corporation Ltd.			
Name of the Hydro Power Station				Arwal					
Region	-	State	Bihar	District	Arwal				
(Rs. in Cr)									
S.No.	Particular		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	#		3	4	5	6	7	8	9
1	Depreciation	FORM- 11	0.00	0.33	0.70	1.07	1.44	1.81	4.66
2	Interest on Loan	FORM- 13A	0.00	27.07	27.07	27.07	27.07	27.07	0.00
3	Return on Equity ¹		-	0.15	0.33	0.34	0.34	0.34	0.35
4	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
5	Interest on Working Capital	FORM- 15	-	0.03	0.04	0.04	0.04	0.04	0.04
6	O & M Expenses	FORM- 17	-	0.11	0.12	0.11	0.07	0.07	0.11
Total			0.00	27.70	28.26	28.64	28.96	29.33	5.16

1 Details of calculations to be furnished.

Applicant

FORM-2

Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.

Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station		Arwal	
Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	1 X 0.5
2	Free power to home state	%	
3	Date of commercial operation		
—	Unit-1		Jan-12
—	Unit-2		Jan-12
—	Unit-3		-
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		canal based
—	c) Peaking/non-peaking		Non-peaking
—	d) No. of hours of peaking		NA
—	e) Overload capacity(MW) & period		NA
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	3.32
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	3.28
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3	
SALIENT FEATURES OF HYDROELECTRIC PROJECT	
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.
Name of Hydro Power station	Arwal
1. Location	
State/Distt.	Bihar / Arwal
River	NA
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	10.09 m (W) Trapezoidal
Length	27.886 M
Design discharge(Cumecs)	24.4
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	0.5 MW (1X 0.5)
Peaking capacity during lean period (MW)	
Type of turbine	Syphon Intake
Rated Head(M)	
Rated Discharge(Cumecs)	
11. Tail Race Tunnel	
Diameter, shape	Trapezoidal
Length	30m x 12.185 m
Minimum tail water level	74.482
12. Switchyard	
Type of Switch gear	
No. of generator bays	1
No. of Bus coupler bays	
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4																							
Details of Foreign loans																							
(Details only in respect of loans applicable to the project under consideration)																							
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.																						
Name of Hydro Power station	Arwal																						
Exchange rate at CoD																							
Exchange rate as on 31.03.																							
(Amount in lakhs)																							
Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on														
1	2	3	4	5	6	7	8	9	10	11	12	13											
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)											
Currency ¹	Not applicable																						
At the date of Drawl ²																							
Scheduled repayment date of principal																							
Scheduled payment date of interest																							
At the end of Financial year																							
Currency ²																							
At the date of Drawl ²																							
Scheduled repayment date of principal																							
Scheduled payment date of interest																							
At the end of Financial year																							
Currency ³ & so on																							
At the date of Drawl ²																							
Scheduled replacement date of principal																							
Scheduled payment date of interest																							
At the end of Financial year																							

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5							
<u>Abstract of Admitted Capital Cost for the existing Project</u>							
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.					
Name of Hydro Power station		Arwal					
							(Amt. in Cr.)
Capital cost admitted as on	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	-	8.08	8.90	8.91	8.91	8.91	8.25
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr) INR	-	8.08	8.90	8.91	8.91	8.91	8.25

FORM-5A

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station	Arwal	
New Projects	No	
Capital Cost Estimates (Rs. In Cr) 3.18		
Name of the Authority approving the project cost estimates:	-	
Date of approval of the Capital cost	-	
	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr. Of	As on Scheduled COD of
Foreign Exchange rate considered for the capital cost estimates		
Capital Cost excluding IDC & FC	3.18	8.09
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Cr.)		
Capital cost excluding IDC & FC (Rs. Cr)	3.18	8.09
IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Cr.)		
IDC & FC (Rs.Cr.)		
Rate of taxes & duties considered		
Schedule dates of Commissioning		
COD of Unit-I	12-07-2007	Jan-12
COD of Unit-II		
COD of last Unit		

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

Applicant

Form - 5B						
Break up of Capital cost (for hydro power generating station)						
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.				
Name of Hydro Power station		Arwal				
(Amt. in Cr.)						
Sl. No.	Head of works	Original cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Infrastructure Works		Break down of Capital Cost provided in Annexure I		Reasons for variation has been submitted in the Petition	
1.1	Preliminary including Development	0.0344				
1.2	Land	0.0542				
1.3	Buildings	0.1988				
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants	0.05				
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	0.3374				
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts					
2.3	Power Plant civil works					
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)					
2.5	Total (Major Civil Works)	0.8773				
3	Hydro Mechanical equipments	1.705				
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment	0.1434				
7.2	Design & Engineering					
7.3	Audit & Accounts	0.0286				
7.4	Contingency	0.086				
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	0.258				
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC (Rs in Cr)	3.18	808.51			808.51

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

Applicant

Form - 5C						
Break up of Capital cost for plant & equipment						
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.				
Name of Hydro Power station		Arwal				
Sl. No.	Head of works	Original Cost as approved by	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Acessories					
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Acessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding					
2.1	Diesel generating sets					
#	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
# # #	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment) (Amt in Cr.)	3.18				

APPLICANT

FORM-5D										
	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Arwal						
Sl.No.	Name/ No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs. lakhs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Sahabad Engineers Pvt Ltd	Electrical (EM)			12-07-2006		Jan-12	319.25		808.51
2	M/S Mother India Construction Pvt. Ltd.	Civil			28-08-2004			140.53		
3	Other	Other			-			31.67		

APPLICANT

Form - 6						
Financial Package upto COD						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Arwal					
Project Cost as on COD ¹	-					
Date of Commercial Operation of the Station ²	Jan-12					
(Amount in Lakhs)						
			<u>Financial Package as</u>		<u>As Admitted on COD</u>	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	#	3	4	5	6	7
Loan-I NABARD	Indian Rs.	213.61	Indian Rs.	213.61	Indian Rs.	808.51
Loan-II GOB	Indian Rs.	101.42	Indian Rs.	101.42	Indian Rs.	
and so on						
Equity-						
Foreign		0		0		0
Domestic	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Total Equity	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Debt : Equity Ratio	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Form - 7						
Details of Project specific loans						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Arwal					
(Amount in lakhs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GOB	NABARD				
Currency ²	INR	INR				
Amount of Loan sanctioned	101.42	213.61				
Amount of Gross Loan drawn upto 31.06.06/COD ^{3,4,5,13,15}	0					
Interest Type ⁶	-					
Fixed Interest Rate, if applicable	-					
Base Rate, if Floating Interest ⁷	13.00%	6.50%				
Margin, if Floating Interest ⁸	No	No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	-					
If above is yes,specify caps/floor	-					
Moratorium Period ¹⁰	-					
Moratorium effective from	-					
Repayment Period ¹¹	-					
Repayment effective from	-					
Repayment Frequency ¹²	-					
Repayment Instalment ^{13,14}	-					
Base Exchange Rate ¹⁶	-					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Form - 8						
Details of allocation of corporate loans to various projects						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Arwal					
(Amount in lacs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	NA					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly,

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the

APPLICANT

Form - 9					
Statement of Additional Capitalisation after COD					
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Hydro Power Station		Arwal			
COD		Jan-12			
		(Amt in Cr)			
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off Date ¹	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	-		0.00
2	2011-12	Plant & Machinery	-		0.00
3	2012-13	Plant & Machinery	0.82		0.82
4	2013-14	Plant & Machinery	0.01		0.01
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
Total			0.82		0.82
1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.					
2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)					
Note:					
1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the					
2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.					

Applicant

FORM - 10							
Financing of Additional Capitalisation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Arwal						
Date of Commercial Operation	Jan-12						
(Amount in Cr)							
Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	NA	-	0.82	0.01	0.0001	-	-
Financing Details							
Loan-1		-	0.57	0.004	0.0000	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity		-	0.25	0.00	0.00	-	-
Internal Resources							
Others							
Total		-	0.82	0.01	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Form -11							
Statement of Depreciation							
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station		Arwal					
(Amount in Cr)							
Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	-	0.33	0.37	0.37	0.37	0.37	0.37
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.00	0.33	0.37	0.37	0.37	0.37	0.37
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.00	0.33	0.37	0.37	0.37	0.37	0.37
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.00	0.33	0.37	0.37	0.37	0.37	0.37
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.00	0.33	0.70	1.07	1.44	1.81	4.66

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

FORM- 12				
Calculation of Depreciation Rate				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Arwal		
(Amount in lakhs)				
Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.10 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Land	Not Applicable		
2	Building			
3	and so on			
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

Applicant

FORM- 13							
Calculation of Interest on Actual Loans ¹							
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Power Station		Arwal					
(Amount in lakhs)							
Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1						
	Gross loan - Opening		101.42	101.42	101.42	101.42	101.42
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening		101.42	101.42	101.42	101.42	101.42
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total		101.42	101.42	101.42	101.42	101.42
	Repayment (s) of Loans during the year						
	Net loan - Closing		101.42	101.42	101.42	101.42	101.42
	Average Net Loan		101.42	101.42	101.42	101.42	101.42
	Rate of Interest on Loan		13.00%	13.00%	13.00%	13.00%	13.00%
	Interest on loan		13.18	13.18	13.18	13.18	13.18
	Loan-2						
	Gross loan - Opening		213.61	213.61	213.61	213.61	213.61
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening		213.61	213.61	213.61	213.61	213.61
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total		213.61	213.61	213.61	213.61	213.61
	Repayment (s) of Loans during the year						
	Net loan - Closing		213.61	213.61	213.61	213.61	213.61
	Average Net Loan		213.61	213.61	213.61	213.61	213.61
	Rate of Interest on Loan		6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan		13.88	13.88	13.88	13.88	13.88
	Total Loan		315.03	315.03	315.03	315.03	315.03
	Gross loan - Opening		315.03	315.03	315.03	315.03	315.03
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening		315.03	315.03	315.03	315.03	315.03
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total		315.03	315.03	315.03	315.03	315.03
	Repayment (s) of Loans during the year						
	Net loan - Closing		315.03	315.03	315.03	315.03	315.03
	Average Net Loan		315.03	315.03	315.03	315.03	315.03
	Interest on loan		27.07	27.07	27.07	27.07	27.07
	Weighted average Rate of Interest on Loans		8.59%	8.59%	8.59%	8.59%	8.59%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Form-14				
Calculation of Advance Against Depreciation (AAD)				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Arwal		
(Amount in lakhs)				
Particulars	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5
1/10th of the Loan(s)				
Repayment of the Loan(s) as considered for working out Interest on Loan				
Minimum of the Above				
Less: Depreciation during the year				
(A ¹)				
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan				
Less: Cumulative Depreciation				
(B ¹)				
Advance Against Depreciation (Minimum of A & B)				

NA

¹If the amount is negative, it will be shown as zero.

Applicant

Form-15								
Calculation of Interest on Working Capital								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Arwal						
(Amount in Cr)								
Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	-	0.01	0.01	0.01	0.01	0.01	0.01
2	Maintenance Spares	-	0.08	0.09	0.09	0.09	0.09	0.09
3	Recievables	-	0.15	0.21	0.21	0.20	0.19	0.21
	Total Working Capital	-	0.24	0.32	0.32	0.30	0.29	0.31
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	-	0.03	0.04	0.04	0.04	0.04	0.04

Applicant

Form-16													
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.											
Name of the Hydro Power Station		Arwal											
Draw Down Schedule for Calculation of IDC & Financing Charges													
(Amount in Lakhs)													
Sl. No.	Draw Down	2009-10			2010-2011			2011-2012			2012-2013 to 2015-16		
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans	NIL											
1.1	Foreign Loans												
1.1.1	Foreign Loan 1												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.2	Foreign Loan 2												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.3	Foreign Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.4	--												
	--												
	--												
1.1	Total Foreign Loans												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	Indian Loans												
1.2.1	Indian Loan 1												
	Draw down Amount							101.42		101.42	101.42		101.42
	IDC												
	Financing charges							13.18		13.18	13.18		13.18
1.2.2	Indian Loan 2												
	Draw down Amount							213.61		213.61	213.61		213.61
	IDC												
	Financing charges							13.88		13.88	13.88		13.88
1.2.3	Indian Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.2.4	--												
	--												
	--												
1.2	Total Indian Loans												
	Draw down Amount							315.03		315.03	315.03		315.03
	IDC												
	Financing charges							27.07		27.07	27.07		27.07
1	Total of Loans drawn												
	IDC												
	Financing charges												
2	Equity												
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
	Total equity deployed												

FORM – 17								
DETAILS OF OPERATION AND MAINTENANCE EXPENSES								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Arwal						
								(Amt. in Cr.)
S. No.	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
1	Consumption of Stores and Spares							
2	Repair and Maintenance							
3	Insurance							
4	Security							
5	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
6	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
7	Corporate office expenses allocation							
8	Total (1 to 8)	-	0.11	0.12	0.11	0.07	0.07	0.11
	LESS: Recovered , if any							
	Net Expenses							
Notes:								
I. The process of allocation of corporate expenses to generating stations should be specified								
II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained								
III. The data should be based on audited balance sheets								
(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

BARUN

Checklist of Forms and other information/ documents for tariff filing for Barun Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
		✓
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓
Other Information/ Documents		

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility:
Name of the Hydro Power Station
Region

Bihar State Hydroelectrical Power Corporation Ltd.
Barun Small Hydro Electric Project
State Bihar District Aurangabad

(Amt in Cr.)

S.No.	Particulars		<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
1	2		3	4	5	6	7	8	6
#	Depreciation	FORM- 11	1.36	2.07	2.78	3.50	4.22	4.94	9.28
#	Interest on Loan	FORM- 13	0.72	0.72	0.58	0.58	0.58	0.58	-
#	Return on Equity ¹		0.63	0.65	0.66	0.67	0.67	0.67	0.67
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.09	0.10	0.10	0.10	0.09	0.08	0.10
#	O & M Expenses	FORM- 17	0.68	0.73	0.79	0.76	0.49	0.45	0.73
			3.49	4.26	4.92	5.61	6.05	6.73	10.78

1 Details of calculations to be furnished.

Applicant

FORM-2

Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION : Barun Small Hydro Electric Project

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	3.3 (2 X 1.65 kW)
2	Free power to home state	%	
3	Date of commercial operation		
	Unit-1		6.96
	Unit-2		3.96
	Unit-3		
	Unit-4		
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		
5	Type of excitation		
	a) Rotaing exciters on generator		
	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	19.447
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	19.8
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Barun Small Hydro Electric Project

1. Location	
State/Distt.	Bihar/Aurangabad
River	Sone
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	NA
Length	NA
Design discharge(Cumecs)	NA
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	2 X 1.65
Peaking capacity during lean period (MW)	NA
Type of turbine	Bulb
Rated Head(M)	3.87 m
Rated Discharge(Cumecs)	124.61 cumecs
11. Tail Race Tunnel	
Diameter, shape	33.55 m Bed width/Trapezoidal
Length	201 m
Minimum tail water level	El. 101.36 m
12. Switchyard	
Type of Switch gear	Outdoor
No. of generator bays	1
No. of Bus coupler bays	NA
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station _____ Barun Small Hydro Electric Project

Exchange rate at COD

Exchange rate as on 31.03.

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	<u>Not applicable</u>											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station : Barun Small Hydro Electric Project

(Amount in Cr)

<u>Capital cost admitted upto</u>	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<u>Domestic Component (Rs. Cr.)</u>	15.09	15.71	15.93	15.93	15.93	15.93	15.93
Foreign Exchange rate considered for the admitted cost	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<u>Total Capital cost to be admitted (Rs. Cr)</u>	15.09	15.71	15.93	15.93	15.93	15.93	15.93

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of the **Utility / Company** : **Bihar State Hydroelectrical Power Corporation Ltd.**
 Name of the **Hydro Power Station** : **Barun Small Hydro Electric Project**

New Projects -

Name of the Authority approving the project
cost estimates:

Date of approval of the Capital cost
estimates:

	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr. Of the year	As on Scheduled COD of the Station

Foreign Exchange rate considered for the
capital cost estimates

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$
or the relevant Currency)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$
or the relevant Currency)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Not Applicable

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

FORM-5B

Break up of Capital cost (for hydro power generating station)

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Barun Small Hydro Electric Project

(Rs. in Lakh)

Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per order dt 15.12.21
1	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Infrastructure Works					
1.1	Preliminary including Development					
1.2	Land	Nil	13.86			
1.3	Buildings	29.71	98.02			
1.4	Township	Nil				
1.5	Maintenance	6.08				
1.6	Tools & Plants	48.11		48.11		
1.7	Communication	Nil				
1.8	Environment & Ecology					
1.9	Losses on stock			0		
1.1	Receipt & Recoveries			0		
1.11	Total (Infrastructure works)	83.9	#	#		
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers X and head regulator					
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Power channel and Tail race channel					
2.3	Power Plant civil works					
2.4	Other civil works (to be specified)			#		
	Desilting of power channel, Forebay	601.98	1002.90	#		
2.5	Total (Major Civil Works)	601.98	1002.90	#		
3	Hydro Mechanical equipments	909.20				
4	Plant & Equipment			0		
4.1	Initial spares of Plant & Equipment		370.69			
4.2	Total (Plant & Equipment)		370.69	#		
5	Taxes and Duties					
5.1	Custom Duty/Excise duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)		1199.65			
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC	1589.00	2685.12	1096.12		1502

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Barun Small Hydro Electric Project

(Rs. in Lakhs)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board (switch board panels)					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)		370.69	370.69		

APPLICANT

FORM- 6**Financial Package upto COD**

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station Barun Small Hydro Electric Project
Project Cost as on COD¹ 1589 lakh
Date of Commercial Operation of the Station² Jun-96

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I GOB	Indian Rs.	1589	Indian Rs.	1025.24	Indian Rs.	1025.24
Loan-II	Indian Rs.					
Common pool/Internal accrual	Indian Rs.		Indian Rs.	50	Indian Rs.	50
Unpaid IDC/FC and so on			Indian Rs.	262.91	Indian Rs.	262.91
Equity-						
Foreign						
Domestic				1346.97		1346.97
Total Equity						
Debt : Equity Ratio						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

FORM- 7**Details of Project Specific Loans****Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.****Name of the Hydro Power Station: Barun Small Hydro Electric Project**

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB					
Currency ²	Indian Rs.					
Amount of Loan sanctioned	1025.24					
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶	Fixed					
Fixed Interest Rate, if applicable	13.00%					
Base Rate, if Floating Interest ⁷	Nil					
Margin, if Floating Interest ⁸	No					
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	1 year					
Moratorium effective from	27-03-1999					
Repayment Period ¹¹	10 year					
Repayment effective from	27-03-2000					
Repayment Frequency ¹²	Annual					
Repayment Instalment ^{13,14}	105.524					
Base Exchange Rate ¹⁶	Nil					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.**APPLICANT**

FORM- 8

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Barun Small Hydro Electric Project

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Barun Small Hydro Electric Project

(Amt in Cr)					
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.07		0.07
2	2011-12	Plant & Machinery	0.62		0.62
3	2012-13	Plant & Machinery	0.22		0.22
4	2013-14	Plant & Machinery	0.0029		0.0029
5	2014-15	Plant & Machinery	0.0004		0.0004
6	2015-16	Plant & Machinery	-		-
7	2023-24	Plant & Machinery	-		-
	Total		0.91		0.91

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased along with any equipment, then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs. etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Barun Small Hydro Electric Project

Date of Commercial Operation:

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.07	0.62	0.22	0.00	0.00	-	-
Financing Details							
Loan-1	0.05	0.43	0.15	0.00	0.00	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.02	0.19	0.07	0.00	0.00	-	-
Internal Resources							
Others							
Total	0.07	0.62	0.22	0.00	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

FORM- 11

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Barun Small Hydro Electric Project

(Amount in Cr)

Financial Year	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.68	0.71	0.72	0.72	0.72	0.72	0.72
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.68	0.71	0.72	0.72	0.72	0.72	0.72
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount							
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.68	0.71	0.72	0.72	0.72	0.72	0.72
Cumulative Depreciation & Advance against Depreciation recovered upto the year	1.36	2.07	2.78	3.50	4.22	4.94	9.28

¹ Depreciation recovered in Tariff upto _____ to be furnished with yearwise details in the same form separately with supporting details

APPLICANT

FORM- 12**Calculation of Depreciation Rate****Name of the Utility / Company:** Bihar State Hydroelectrical Power Corporation Ltd.**Name of the Hydro Power Station:** Barun Small Hydro Electric Project

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2008 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1		NA		
2				
3				
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Barun Small Hydro Electric Project

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	Nil	Nil	Nil	Nil	Nil	Nil
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	Nil	Nil	Nil	Nil	Nil	Nil
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	Nil	Nil	Nil	Nil	Nil	Nil
	Average Net Loan						
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	72.24	72.24	58.35	58.35	58.35	58.35
	Total Loan	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	Nil	Nil	Nil	Nil	Nil	Nil
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	Nil	Nil	Nil	Nil	Nil	Nil
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	Nil	Nil	Nil	Nil	Nil	Nil
	Average Net Loan						
	Interest on loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Weighted average Rate of Interest on Loans	72.24	72.24	58.35	58.35	58.35	58.35

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

FORM- 14

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Barun Small Hydro Electric Project

(Amount in Cr.)

Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
1/10th of the Loan(s)	Not applicable						
Repayment of the Loan(s) as considered for working out Interest on Loan							
Minimum of the Above							
Less: Depreciation during the year							
(A ¹)							
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan							
Less: Cumulative Depreciation							
(B ¹)							
Advance Against Depreciation (Minimum of A & B)							

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station Barun Small Hydro Electric Project

(Amount in Cr)

Sl. No.	Particulars	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.06	0.06	0.07	0.06	0.04	0.04	0.06
2	Maintenance Spares	0.17	0.18	0.18	0.18	0.18	0.18	0.18
3	Recievables	0.37	0.38	0.39	0.38	0.33	0.32	0.37
	Total Working Capital	0.60	0.62	0.63	0.62	0.55	0.54	0.61
	Rate of Interest	15.75%	15.75%	15.75%	15.75%	15.75%	15.75%	15.75%
	Interest on Working Capital	0.09	0.10	0.10	0.10	0.09	0.08	0.10

Applicant

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd.
 Name of the Hydro Power Station Barun Small Hydro Electric Project

Draw Down Schedule for Calculation of IDC & Financing Charges

Sl. No.		UF/Draw Down/Particulars	2003-2004	Quantum in Foreign currency	Exchange Rate on draw down	Amount in Indian Rupee	(Amount in Lakhs)			2005-2006			2006-2007			2007-2008			2008-2009			2009-2010 to 2015-16		
							Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee			
1																								
1.1																								
1.1.1																								
1.1.2																								
1.1.3																								
1.1.4																								
1.1																								
1.2																								
1.2.1																								
1.2.2																								
1.2.3																								
1.2.4																								
1.2																								
1																								
2																								
2.1																								
2.2																								
Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.																								
APPLICANT																								

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility : Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Power Station : Barun Small Hydro Electric Project

(Rs in Cr.)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	9
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance + O&M							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.68	0.73	0.79	0.76	0.49	0.45	0.73
	LESS: Recovered , if any							
	Net Expenses							

Notes:

- I. The process of allocation of corporate expenses to generating stations should be specified
 II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained
 III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

BELSAR		
Checklist of Forms and other information/ documents for tariff filing for Belsar Hydro Power Generating Station		
Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Propasal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓
Other Information/ Documents		
Sl. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencing Business, Memorandum of Association & Article of Association (for new station set up by a company making tariff application for the first time to CERC)	-
2	Stationwise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the station and for the relevant years.	Submitted with true-up petition
3	Copies of relevant loan agreements	Submitted with true-up petition
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	
5	Copies of the Equity participation agreements and necessary approval for the foreign equity	-
6	Copies of the BPSA/PPA with the beneficiaries, if any	-
7	Detailed note giving reasons of time and cost over run, if applicable.	-
8	Any other relevant information (if any, to be specified)	-

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1									
Summary of Tariff Proposal									
Name of the Company / Utility:		Bihar State Hydroelectrical Power Corporation Ltd.							
Name of the Hydro Power Station		Belsar							
Region	-	State	Bihar	District	Vaishali				
(Rs. in Cr)									
S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	10
1	Depreciation	FORM- 11	0.00	0.00	0.48	0.96	1.45	1.93	5.71
2	Interest on Loan	FORM- 13A	0	0.48	0.44	0.44	0.44	0.44	0.00
3	Return on Equity ¹		-	-	0.22	0.45	0.45	0.45	0.45
4	Advance against Depreciation	FORM- 14	-	-	-	-	-	-	-
5	Interest on Working Capital	FORM- 15	-	-	0.05	0.06	0.06	0.06	0.06
6	O & M Expenses	FORM- 17	-	-	0.24	0.23	0.15	0.14	0.22
—			0	0.48	1.43	2.14	2.54	3.01	6.45

1 Details of calculations to be furnished.

Applicant

FORM-2			
Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.			
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station		Belsar	
Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	2 X 0.5
2	Free power to home state	%	
3	Date of commercial operation		
—	Unit-1		Jul-12
—	Unit-2		Jul-12
—	Unit-3		-
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Canal based
—	c) Peaking/non-peaking		Non- peaking
—	d) No. of hours of peaking		
—	e) Overload capacity(MW) & period		
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	6
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	5
9	Saleable Primary Energy	Gwh	5.94
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3	
SALIENT FEATURES OF HYDROELECTRIC PROJECT	
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.
Name of Hydro Power station	Belsar
1. Location	
State/Distt.	BIHAR /Arwal
River	
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	15.642 m (W) Trapezoidal
Length	30 m
Design discharge(Cumecs)	
8. Surge Shaft	
Type	
Diameter	
Height	
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	1.0 (2 x 0.5)
Peaking capacity during lean period (MW)	
Type of turbine	
Rated Head(M)	
Rated Discharge(Cumecs)	
11. Tail Race Tunnel	
Diameter, shape	Trapezoidal
Length	30m x 17.675m
Minimum tail water level	78.344
12. Switchyard	
Type of Switch gear	
No. of generator bays	1
No. of Bus coupler bays	
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4												
Details of Foreign loans												
(Details only in respect of loans applicable to the project under consideration)												
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.											
Name of Hydro Power station	Belsar											
Exchange rate at CoD												
Exchange rate as on 31.03.												
(Amount in lakhs)												
Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1 ¹	Not applicable											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2 ¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3 ¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5							
<u>Abstract of Admitted Capital Cost for the existing Project</u>							
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.						
Name of Hydro Power station	Belsar						
	(Amt in Cr)						
Capital cost admitted as on -----	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	-	-	10.68	10.71	10.71	10.71	10.71
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr)	-	-	10.68	10.71	10.71	10.71	10.71

FORM-5A		
Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects		
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station	Belsar	
New Projects	No	
Capital Cost Estimates		
Name of the Authority approving the project cost estimates:	-	
Date of approval of the Capital cost	-	
	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr. Of	As on Scheduled COD of
Foreign Exchange rate considered for the capital cost estimates		
Capital Cost excluding IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Cr.)		
Capital cost excluding IDC & FC (Rs. Cr)		
IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Total Capital cost Domestic Component (Rs. Cr.)	5.7	12.97
IDC & FC (Rs.Cr.)		
Rate of taxes & duties considered		
Schedule dates of Commissioning		
COD of Unit-I	Apr-09	Jul-12
COD of Unit-II		
COD of last Unit		
Note:		
1. Copy of approval letter should be enclosed.		
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.		
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.		
		Applicant

Form - 5B						
Break up of Capital cost (for hydro power generating station)						
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.				
Name of Hydro Power station		Belsar				
		(Amt in Cr)				
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development	0.05	Cost Breakup Provided as Annexure I		Reasons for variation has been submitted in the Petition	
1.2	Land	0.08				
1.3	Buildings	0.21				
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants	0.05				
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	0.38				
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts					
2.3	Power Plant civil works					
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)					
2.5	Total (Major Civil Works)	1.55				
3	Hydro Mechanical equipments	3.30				
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment	0.26				
7.2	Design & Engineering					
7.3	Audit & Accounts	0.05				
7.4	Contingency	0.16				
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	0.47				
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC (INR Cr)	5.70	12.97			

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

Applicant

Form - 5C							
Break up of Capital cost for plant & equipment							
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.					
Name of Hydro Power station		Belsar					
Sl. No.	Head of works	Original Cost as approved by	Cost on COD	Variation	Reasons for variation	Admitted cost	
1	2	3	4	5	6	7	
1	Generator, turbine & Acessories						
1.1	Generator package		Cost Breakup Provided in Annexure I				
1.2	Turbine package						
1.3	Unit control Board						
1.4	C&I package						
1.5	Bus Duct of GT connection						
1.6	Total (Generator, turbine & Acessories)						
2	Auxiliary Electrical Equipment						
2.1	Step up transformer						
2.2	Unit Auxiliary Transformer						
2.3	Local supply transformer						
2.4	Station transformer						
2.5	SCADA						
2.6	Switchgear, Batteries, DC dist. Board						
2.7	Telecommunication equipment						
2.8	Illumination of Dam, PH and Switchyard						
2.9	Cables & cable facilities, grounding						
2.1	Diesel generating sets						
2.11	Total (Auxiliary Elect. Equipment)						
3.0	Auxiliary equipment & services for power station						
3.1	EOT crane						
3.2	Other cranes						
3.3	Electric lifts & elevators						
3.4	Cooling water system						
3.5	Drainage & dewatering system						
3.6	Fire fighting equipment						
3.7	Air conditioning, ventilation and heating						
3.8	Water supply system						
3.9	Oil handling equipment						
3.1	Workshop machines & equipment						
3.11	Total (Auxiliary equipt. & services for PS)						
4	Switchyard package						
5	Initial spares for all above equipments						
6	Total (Plant & Equipment)	5.70					

APPLICANT

FORM-5D										
	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Belsar						
				(Amt in Lakh)						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. In Lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs. In Lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M K Enterprises	Civil			3.04.2006		Jul-12	835.90		1,180.08
2		E/M								
3	Other	Other			-			14.16		

Form - 6						
Financial Package upto COD						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Belsar					
Project Cost as on COD ¹	-					
Date of Commercial Operation of the Station ²	Jul-12					
(Amount in lakhs)						
			Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	#	3	4	5	6	7
Loan-I NABARD	Indian Rs.	386.31	Indian Rs.	386.31	Indian Rs.	1,180.08
Loan-II GOB	Indian Rs.	178.47	Indian Rs.	178.47	Indian Rs.	
Loan-III	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
and so on						
Equity-						
Foreign		0		0		0
Domestic	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Total Equity	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Debt : Equity Ratio	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Form - 7						
Details of Project specific loans						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Belsar					
(Amount in lakhs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB	Nabard				
Currency ²	INR	INR				
Amount of Loan sanctioned	178.47	386.31				
Amount of Gross Loan drawn upto 31.06.06/COD ^{3,4,5,13,15}						
Interest Type ⁶	-					
Fixed Interest Rate, if applicable	-					
Base Rate, if Floating Interest ⁷	13.00%	6.50%				
Margin, if Floating Interest ⁸	No	No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	-					
If above is yes,specify caps/floor	-					
Moratorium Period ¹⁰	-					
Moratorium effective from	-					
Repayment Period ¹¹	-					
Repayment effective from	-					
Repayment Frequency ¹²	-					
Repayment Instalment ^{13,14}	-					
Base Exchange Rate ¹⁶	-					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03. ____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawl/repayment for a loan, the date & amount of each drawl/repayment may also be given separately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

¹⁵ In case of Foreign loan, date of each drawl & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03. ____ for existing assets and as on COD for the remaining assets.

APPLICANT

Form - 8						
Details of allocation of corporate loans to various projects						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Belsar					
(Amount in lacs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.

¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Form - 9					
Statement of Additional Capitalisation after COD					
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Hydro Power Station		Belsar			
COD		Jan-12			
		(Amt in Cr)			
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off Date ¹	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	-		0.00
2	2011-12	Plant & Machinery	-		0.00
3	2012-13	Plant & Machinery	-		0.00
4	2013-14	Plant & Machinery	0.04		0.04
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
Total			0.04		0.04
1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.					
2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)					
Note:					
1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity					
2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.					

Applicant

FORM - 10							
Financing of Additional Capitalisation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Belsar						
Date of Commercial Operation	Jul-12						
							(Amount in Cr)
Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	-	-	-	0.04	0.0001	-	-
Financing Details							
Loan-1	-	-	-	0.03	0.00	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	-	-	-	0.01	0.00	-	-
Internal Resources							
Others							
Total	-	-	-	0.04	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Form -11							
Statement of Depreciation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Belsar						
(Amount in Cr)							
Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	-	-	0.48	0.48	0.48	0.48	0.48
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.00	0.00	0.48	0.48	0.48	0.48	0.48
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.00	0.00	0.48	0.48	0.48	0.48	0.48
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.00	0.00	0.48	0.48	0.48	0.48	0.48
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.00	0.00	0.48	0.96	1.45	1.93	5.71

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

FORM- 12				
Calculation of Depreciation Rate				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Belsar		
(Amount in lakhs)				
Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.10 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Land	Not Applicable		
2	Building			
3	and so on			
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

Applicant

FORM- 13							
Calculation of Interest on Actual Loans ¹							
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Power Station		Belsar					
(Amount in lakhs)							
Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1						
	Gross loan - Opening		178.47	178.47	178.47	178.47	178.47
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening		178.47	178.47	178.47	178.47	178.47
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total		178.47	178.47	178.47	178.47	178.47
	Repayment (s) of Loans during the year						
	Net loan - Closing		178.47	178.47	178.47	178.47	178.47
	Average Net Loan		178.47	178.47	178.47	178.47	178.47
	Rate of Interest on Loan		13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan		23.20	18.74	18.74	18.74	18.74
	Loan-2						
	Gross loan - Opening		386.31	386.31	386.31	386.31	386.31
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening		386.31	386.31	386.31	386.31	386.31
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total		386.31	386.31	386.31	386.31	386.31
	Repayment (s) of Loans during the year						
	Net loan - Closing		386.31	386.31	386.31	386.31	386.31
	Average Net Loan		386.31	386.31	386.31	386.31	386.31
	Rate of Interest on Loan		6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan		25.11	25.11	25.11	25.11	25.11
	Total Loan		564.79	564.79	564.79	564.79	564.79
	Gross loan - Opening		564.79	564.79	564.79	564.79	564.79
	Cumulative repayments of Loans upto previous year		0.00	0.00	0.00	0.00	0.00
	Net loan - Opening		564.79	564.79	564.79	564.79	564.79
	Increase / decrease due to FERV		0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to ACE		0.00	0.00	0.00	0.00	0.00
	Total		564.79	564.79	564.79	564.79	564.79
	Repayment (s) of Loans during the year		0.00	0.00	0.00	0.00	0.00
	Net loan - Closing		564.79	564.79	564.79	564.79	564.79
	Average Net Loan		564.79	564.79	564.79	564.79	564.79
	Interest on loan		48.31	43.85	43.85	43.85	43.85
	Weighted average Rate of Interest on Loans		8.55%	7.76%	7.76%	7.76%	7.76%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Form-14				
Calculation of Advance Against Depreciation (AAD)				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Belsar		
Particulars				
1	2	3	4	5
1/10th of the Loan(s)	NA			
Repayment of the Loan(s) as considered for working out Interest on Loan				
Minimum of the Above				
Less: Depreciation during the year				
(A ¹)				
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan				
Less: Cumulative Depreciation				
(B ¹)				
Advance Against Depreciation (Minimum of A & B)				

¹If the amount is negative, it will be shown as zero.

Applicant

Form-15								
Calculation of Interest on Working Capital								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Belsar						
(Amount in Cr)								
Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	10
1	O & M expenses	-	-	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	-	-	0.12	0.12	0.12	0.12	0.12
3	Recievables	-	-	0.22	0.30	0.28	0.27	0.29
	Total Working Capital	-	-	0.36	0.44	0.41	0.40	0.43
	Rate of Interest	14.50%	14.50%	14.50%	14.50%	14.50%	14.50%	14.50%
	Interest on Working Capital	-	-	0.05	0.06	0.06	0.06	0.06

Applicant

Form-16													
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.											
Name of the Hydro Power Station		Belsar											
Draw Down Schedule for Calculation of IDC & Financing Charges													
(Amount in Lakhs)													
Sl. No.	Draw Down	2011-2012			2012-13			2013-14			2014-15 to 2015-16		
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans	Not Applicable											
1.1	Foreign Loans												
1.1.1	Foreign Loan 1												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.2	Foreign Loan 2												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.3	Foreign Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.4	--												
	--												
	--												
1.1	Total Foreign Loans												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	Indian Loans												
1.2.1	Indian Loan 1												
	Draw down Amount	178.47		178.47	178.47		178.47	178.47		178.47	178.47	178.47	
	IDC												
	Financing charges	23.20		23.20	23.20		23.20	23.20		23.20	23.20	23.20	
1.2.2	Indian Loan 2												
	Draw down Amount	386.31		386.31	386.31		386.31	386.31		386.31	386.31	386.31	
	IDC												
	Financing charges	25.11		25.11	25.11		25.11	25.11		25.11	25.11	25.11	
1.2.3	Indian Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.2.4	--												
	--												
	--												
1.2	Total Indian Loans												
	Draw down Amount												
	IDC												
	Financing charges												
1	Total of Loans drawn	564.79		564.79	564.79		564.79	564.79		564.79	564.79	564.79	
	IDC												
	Financing charges	48.31		48.31	48.31		48.31	48.31		48.31	48.31	48.31	
2	Equity												
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
	Total equity deployed												

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

FORM – 17								
DETAILS OF OPERATION AND MAINTENANCE EXPENSES								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Belsar						
S. No.	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8) in Cr.	-	-	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered , if any							
	Net Expenses							
<p>Notes:</p> <p>I. The process of allocation of corporate expenses to generating stations should be specified</p> <p>II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained</p> <p>III. The data should be based on audited balance sheets</p>								
(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

DEHRI

Checklist of Forms and other information/ documents for tariff filing for Bihar State Hydroelectric Power Plants

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility:
Name of the Hydro Power Station
Region

Bihar State Hydroelectrical Power Corporation Ltd.
 Sone Western Link Canal HEP, Dehri
 S Bihar District Rohtas

(Rs. in Cr)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
1	Depreciation	FORM- 11	3.02	4.72	6.42	8.22	10.03	11.83	23.54
2	Interest on Loan	FORM- 13	2.55	2.55	2.06	2.06	2.06	2.06	-
3	Return on Equity ¹		1.42	1.52	1.58	1.63	1.68	1.68	1.80
4	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
5	Interest on Working Capital	FORM- 15	0.23	0.25	0.25	0.26	0.24	0.23	0.27
6	O & M Expenses	FORM- 17	1.36	1.46	1.58	1.51	0.99	0.90	1.46
			8.59	10.50	11.90	13.69	15.00	16.72	27.08

1 Details of calculations to be furnished.

Applicant

FORM-2**Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.****NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.****NAME OF Hydro POWER STATION : Sone Western Link Canal HEP, Dehri**

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	6.6 (4X1650 kW)
2	Free power to home state	%	
3	Date of commercial operation		
	Uni		19.01.93
	Uni		06.03.93
	Uni		28.08.93
	Uni		11.04.93
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		NA
5	Type of excitation		
	a) Rotaing excitors on generator		
	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	43.106
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	42.57
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.**APPLICANT**

FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Sone Western Link Canal HEP, Dehri

1. Location

State/Distt.	Bihar/Rohtas
River	Sone Western Link Canal HEP, Dehri

2. Diversion Tunnel

Size, shape	WMC 123.96 cumecs, EMC 48.68 cumecs
Length	WMC 31.42 km, EMC 125.53 km

3. Dam

Type	NA
Maximum dam height	NA

4. Spillway

Type	NA
Crest level of spillway	NA

5. Reservoir

Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA

6. Desilting Arrangement

Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA

7. Head Race Tunnel/Power channel

Size and type	NA
Length	935 m
Design discharge(Cumecs)	345.78 cumecs

8. Surge Shaft

Type	NA
Diameter	NA
Height	NA

9. Penstock/Pressure shafts

Type	NA
Diameter & Length	NA

10. Power House

Type	Surface
Installed capacity (No of units x MW)	4 X 1.65
Peaking capacity during lean period (MW)	NA
Type of turbine	Axial flow Kaplan
Rated Head(M)	3.87 m
Rated Discharge(Cumecs)	226.54 cumecs

11. Tail Race Tunnel

Diameter, shape	Trapezoidal, BW 70.71 m, FSD 2.26 m
Length	150 m
Minimum tail water level	

12. Switchyard

Type of Switch gear	Outdoor
No. of generator bays	1
No. of Bus coupler bays	NA
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station Sone Western Link Canal HEP, Dehri

Exchange rate at COD

Exchange rate as on 31.03.20

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	<div>Not applicable</div>											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.
Name of the Hydro Power Station : Sone Western Link Canal HEP, Dehri

(Rs in Cr)

<u>Capital cost admitted as on</u>	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
—							
Foreign Component, if any (In Million US \$ or the relevant Currency)	NIL	NIL	NIL	NIL	NIL	NIL	NIL
—							
<u>Domestic Component (Rs. Cr.)</u>	34.52	37.67	37.70	40.07	40.08	40.08	42.90
—							
Foreign Exchange rate considered for the admitted cost	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<u>Total Capital cost to be admitted (Rs. Cr)</u>	34.52	37.67	37.70	40.07	40.08	40.08	42.90

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of the **Utility / Company** : **Bihar State Hydroelectrical Power Corporation Ltd.**
 Name of the **Hydro Power Station** : **Sone Western Link Canal HEP, Dehri**
New Projects - YES Under construction

Name of the Authority approving the project

Date of approval of the Capital cost

Estimated Cost**Completed Cost**

Price level of approved estimates

As of End of Qtr. Of

As on Scheduled COD of

Foreign Exchange rate considered for the

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

APPLICANT

FORM-5B

Break up of Capital cost (for hydro power generating station)

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Sone Western Link Canal HEP, Dehri

(Rs. in Lakh)

Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per order dt 15.12.21
1	2	3	4	5	6	7
1	Infrastructure Works				The preliminary expenses, development expenditure and advance could not be adjusted. As such this variation has been soon.	
1.1	Preliminary including Development					
1.2	Land	56.35	53.5	-2.85		
1.3	Buildings		#			
1.4	Township		#			
1.5	Maintenance					
1.6	Tools & Plants	14.15		-14.15		
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	70.5	#	-17		
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers	18.07				
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Power channel and Tail race channel					
2.3	Power Plant civil works					
2.4	Other civil works (DLR bridge, miscellaneous work)		1297.17			
2.5	Total (Major Civil Works)	18.07	1297.17	0.00		
3	Hydro Mechanical equipments					
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment	2095.28	1637.15	-458.13		
4.2	Total (Plant & Equipment)	2095.28	1637.15	-458.13		
5	Taxes and Duties					
5.1	Custom Duty/Excise duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning	14.32				
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	1221.83	1315.19			
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC (in lakh)	3420.00	4385.17	965.17		3329
Note:						
1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.						
APPLICANT						

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Sone Western Link Canal HEP, Dehri

(Rs. in crore)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package	2095.28	1637.15			
1.2	Turbine package					
1.3	Unit control Board (switch board panels)					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Transmission line					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)	2095.28	1637.15			

APPLICANT

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Sone Western Link Canal HEP, Dehri						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Cr.)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier (Rs. Cr.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Nil										
<p>1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.</p> <p style="text-align: center;">APPLICANT</p>										

FORM- 6**Financial Package upto COD**

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station Sone Western Link Canal HEP, Dehri
Project Cost as on COD¹ 3420 lakh
Date of Commercial Operation of the Station² 11.04.93

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I PFC	Indian Rs.	600	Indian Rs.	584.19	Indian Rs.	584.19
Loan-II GOB	Indian Rs.	949.81	Indian Rs.	1430.79	Indian Rs.	1430.79
Common pool/internal accrual	Indian Rs.		Indian Rs.		Indian Rs.	
Unpaid IDC/FC	Indian Rs.	770.51	Indian Rs.	770.51	Indian Rs.	770.51
and so on						
Equity-						
Foreign						
Domestic						
Total Equity		1374.68		1374.68		1374.68
Debt : Equity Ratio						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Details of Project Specific Loans

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	PFC	GoB				
Currency ²	Indian Rs.	Indian Rs.				
Amount of Loan sanctioned	600	1430.79				
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	584.19	1430.79				
Interest Type ⁶	Fixed	Fixed				
Fixed Interest Rate, if applicable	16.75%	13%				
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸	No					
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	5 year	1 year				
Moratorium effective from	Dec'92					
Repayment Period ¹¹	10 year	10 year				
Repayment effective from	15.12.1997					
Repayment Frequency ¹²	Half yearly	Annual				
Repayment Instalment ^{13,14}	29.2095					
Base Exchange Rate ¹⁶	Nil					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Sone Western Link Canal HEP, Dehri

(Amt in Cr)

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/Beyond Cut off Date ¹	Amount Capitalised / Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	1.23		1.23
2	2011-12	Plant & Machinery	3.15		3.15
3	2012-13	Plant & Machinery	0.03		0.03
4	2013-14	Plant & Machinery	2.36		2.36
5	2014-15	Plant & Machinery	0.012		0.012
6	2015-16	Plant & Machinery	0.005		0.005
7	2023-24	Plant & Machinery	-		-
	Total		6.79		6.79

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.
2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.

APPLICANT

FORM - 10

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

Date of Commercial Operation:

(Amount in Cr)

Financial Year (Starting from COD) 1	2010-11 2	2011-12 3	2012-13 4	2013-14 5	2014-15 6	2015-16 7	2023-24 8
Amount capitalised in Work/Equipment	1.23	3.15	0.03	2.36	0.01	0.01	-
Financing Details							
Loan-1	0.86	2.21	0.02	1.65	0.009	0.004	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.37	0.95	0.01	0.71	0.004	0.002	-
Internal Resources							
Others							
Total	1.23	3.15	0.03	2.36	0.012	0.005	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	1.55	1.70	1.70	1.80	1.81	1.81	1.93
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	1.55	1.70	1.70	1.80	1.81	1.81	1.93
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	1.55	1.70	1.70	1.80	1.81	1.81	1.93
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	1.55	1.70	1.70	1.80	1.81	1.81	1.93
Cumulative Depreciation & Advance against Depreciation recovered upto the year	3.02	4.72	6.42	8.22	10.03	11.83	23.54

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2008 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Non residential building	N/A	N/A	
2	Power building			
3	Road and Bridge			
4	Water supply installation			
5	Sub Station Transformer			
6	Main Generating equipment			
7	Power channel			
8	Electrical equipment			
9	Tools and equipment			
10	Crane Hoisting Equipment			
11	Switch Yard			
12	Transmission System			
13	Other fixed assets			
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Power Station: Sone Western Link Canal HEP, Dehri

(Amount in Lakh)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Repayment (s) of Loans during the year						
	Net loan - Closing	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Average Net Loan	Nil	Nil	Nil	Nil	Nil	Nil
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	255.37	255.37	206.26	206.26	206.26	206.26
	Total Loan						
	Gross loan - Opening	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Repayment (s) of Loans during the year						
	Net loan - Closing	1964.39	1964.39	1964.39	1964.39	1964.39	1964.39
	Average Net Loan	Nil	Nil	Nil	Nil	Nil	Nil
	Interest on loan	255.37	255.37	206.26	206.26	206.26	206.26
	Weighted average Rate of Interest on Loans	13%	13.00%	10.50%	10.50%	10.50%	10.50%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Sone Western Link Canal HEP, Dehri

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	Not applicable				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company - Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station - Sone Western Link Canal HEP, Dehri

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.11	0.12	0.13	0.13	0.08	0.08	0.12
2	Maintenance Spares	0.39	0.42	0.42	0.45	0.45	0.45	0.48
3	Recievables	0.77	0.82	0.86	0.87	0.79	0.77	0.92
	Total Working Capital	1.27	1.37	1.41	1.44	1.32	1.30	1.53
	Rate of Interest	18%	18%	18%	18%	18%	18%	18%
	Interest on Working Capital	0.23	0.25	0.25	0.26	0.24	0.23	0.27

Applicant

FORM- 16																	
Name of the Utility / Company		Bihar State Hydroelectrical Power Corporation Ltd.															
Name of the Hydro Power Station		Sone Western Link Canal HEP, Dehri															
Draw Down Schedule for Calculation of IDC & Financing Charges																	
(Amount in Lakhs)																	
Sl. No.	Draw Down	2003-2004	Exchange Rate on draw down	Amount in Indian Rupee	2004-2005	Exchange Rate on draw down date	Amount in Indian Rupee	2005-2006	Exchange Rate on draw down date	Amount in Indian Rupee	2006-2007	Exchange Rate on draw down date	Amount in Indian Rupee	2007-2008	Exchange Rate on draw down date	Amount in Indian Rupee	2008-2009 to 2015-16
1	Loans																
1.1	Foreign Loans																
1.1.1	Foreign Loan 1																
	Draw down Amount																
	IDC																
	Financing charges																
1.1.2	Foreign Loan 2																
	Draw down Amount																
	IDC																
	Financing charges																
1.1.3	Foreign Loan 3																
	Draw down Amount																
	IDC																
	Financing charges																
1.1.4	--																
	--																
	--																
1.1	Total Foreign Loans																
	Draw down Amount																
	IDC																
	Financing charges																
1.2	Indian Loans																
1.2.1	Govt. Of Bihar																
	Draw down Amount		902.6			1805.2		2707.8		3610.4			5415.6			8123.4	
	IDC																
	Financing charges		135.39			135.39		135.39		135.39			135.39			135.39	
1.2.2	Indian Loan 2																
	Draw down Amount																
	IDC																
	Financing charges																
1.2.3	Indian Loan 3																
	Draw down Amount																
	IDC																
	Financing charges																
1.2.4	--																
	--																
	--																
1.2	Total Indian Loans																
	Draw down Amount		902.6			1805.2		2707.8		3610.4			5415.6			8123.4	
	IDC																
	Financing charges		135.39			135.39		135.39		135.39			135.39			135.39	
1	Total of Loans drawn		902.6			1805.2		2707.8		3610.4			5415.6			8123.4	
	IDC																
	Financing charges		135.39			135.39		135.39		135.39			135.39			135.39	
2	Equity																
2.1	Foreign equity drawn																
2.2	Indian equity drawn																
	Total equity deployed		1037.99			1940.59		2843.19		3745.79			5550.99			8258.79	
Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.																	
APPLICANT																	

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Power Station : Sone Western Link Canal HEP, Dehri

(Rs. In Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance + O&M							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	1.36	1.46	1.58	1.51	0.99	0.90	1.46
	LESS: Recovered , if any							
	Net Expenses							

Notes:

- I. The process of allocation of corporate expenses to generating stations should be specified
 II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained
 III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)						
	- Employee expenses						
	- Repair and maintenance						
	- Training and Recruitment						
	- Communication						
	- Travelling						
	- Security						
	- Rent						
	- Others						
	Total						
(C)	Details of number of Employees						
	i) Executives						
	ii) Non-Executives						
	iii) Skilled						
	iv) Non-Skilled						
	Total						

(APPLICANT)

DHELABAGH
Checklist of Forms and other information/ documents for tariff filing for Dhelabagh
Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Propasal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : Dhelabagh Small Hydel Project

Region

State

Bihar

District

Rohtas

(Rs. in Cr)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	0.48	0.24	0.46	0.46	0.46	0.46	6.29
#	Interest on Loan	FORM- 13	0.58	0.58	0.53	0.53	0.53	0.53	-
#	Return on Equity ¹		0.00	0.00	0.11	0.21	0.21	0.21	0.25
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.02	0.02	0.04	0.04	0.04	0.04	0.04
#	O & M Expenses	FORM- 17	0.21	0.22	0.24	0.23	0.15	0.14	0.22
			1.28	1.07	1.38	1.48	1.39	1.38	6.81

1 Details of calculations to be furnished.

Applicant

FORM-2**Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.****NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.****NAME OF Hydro POWER STATION : Dhelabagh Small Hydel Project**

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	1 (2 X 500 kW)
2	Free power to home state	%	
3	Date of commercial operation		
	Unit-		Aug-06
	Unit-		Aug-06
	Unit-		
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		NA
5	Type of excitation		
	a) Rotaing exciters on generator		
	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	8
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	7.92
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.**APPLICANT**

FORM-3	
SALIENT FEATURES OF HYDROELECTRIC PROJECT	
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.	
NAME OF Hydro POWER STATION: Dhelbagh Small Hydel Project	
1. Location	
State/Distt.	Bihar/Rohtas
River	Sone/Ara Canal System
2. Diversion Tunnel	NA
Size, shape	NA
Length	NA
3. Dam	NA
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	BW 14.07 m WD 2.38 m, Trapezoidal
Length	200 M
Design discharge(Cumecs)	54.40 cumecs
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface type
Installed capacity (No of units x MW)	2 X 500 kW
Peaking capacity during lean period (MW)	NA
Type of turbine	Semi Kaplan Syphon Type
Rated Head(M)	3.20 m
Rated Discharge(Cumecs)	54.40 cumecs
11. Tail Race Tunnel	
Diameter, shape	BW 14.07 m WD 2.38 m, Trapezoidal
Length	260 m
Minimum tail water level	94.34 m
12. Switchyard	
Type of Switch gear	Outdoor
No. of generator bays	One
No. of Bus coupler bays	
No. of line bays	One

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company **Bihar State Hydroelectrical Power Corporation Ltd.**

Name of the Hydro Power Station _____ Dhelabagh Small Hydel Project

(Amount in lakhs)

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency11	Not applicable											
At the date of Drawl2												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency21												
At the date of Drawl2												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency31 & so on												
At the date of Drawl2												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : Dhelabagh Small Hydel Project

(Amount in Cr.)

Capital cost admitted as on Aug 2006	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	5.25	5.35	10.31	10.31	10.31	10.31	11.21
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr)	5.25	5.35	10.31	10.31	10.31	10.31	11.21

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of the **Utility / Company** : **Bihar State Hydroelectrical Power Corporation Ltd.**
Name of the **Hydro Power Station** : **Dhelabagh Small Hydel Project**
New Projects Under construction
Capital Cost Estimates

Values in Rs. Lacs

Name of the Authority approving the project		
Date of approval of the Capital cost		
	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr. Of	As on Scheduled COD of
Foreign Exchange rate considered for the	NA	
Capital Cost excluding IDC & FC	687.5	918.85
Foreign Component, if any (In Million US \$		
Domestic Component (Rs. Cr.)	687.5	918.85
Capital cost excluding IDC & FC (Rs. Cr)		
IDC & FC	687.5	918.85
Foreign Component, if any (In Million US \$		
Domestic Component (Rs. Cr.)	687.5	918.85
IDC & FC (Rs.Cr.)	687.5	200
Rate of taxes & duties considered	4	4
Schedule dates of Commissioning		
COD of Unit-I		
COD of Unit-II		

COD of last Unit		

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

FORM-5B						
Break up of Capital cost (for hydro power generating station)						
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.						
NAME OF Hydro POWER STATION: Dhelabagh Small Hydel Project						
(Rs. in Lakhs)						
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per BERC order dt 15.12.21
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development	6.3				
1.2	Land					
1.3	Buildings	22.48				
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants					
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	28.78	455.46	-426.68		
2	Major Civil Works			0		
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Tail race channel	37.80				
2.3	Power Plant civil works	191.56				
2.4	Miscellaneous (Bridge etc.)					
2.5	Total (Major Civil Works)	229.36		229.36		
3	Hydro Mechanical equipments	409.86	663.39	-253.53		
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty/Excise duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning	1.5				
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)	1.5		0		
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	18		18		
8	Capital Cost without IDC & FC	687.5	1118.85	-431.35		
9	Financing charges (FC)					
10	Interest during construction (IDC)	68.75	1118.85	-362.6		
11	Capital Cost with IDC & FC	756.25	1118.85	-362.6		688

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Dhelabagh Small Hydel Project

(Rs. in lakhs)

Sl. No.	Head of works	Original Cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package	64				
1.2	Turbine package	146				
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)	210				
2	Auxiliary Electrical Equipment					
2.1	Step up transformer	9				
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board	3				
2.7	Transmission line	30				
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line	18				
2.1	Diesel generating sets	2				
2.11	Total (Auxiliary Elect. Equipment)	62				
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane	10	663.39			
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment	2				
3.11	Total (Auxiliary equipt. & services for PS)	12				
4	Switchyard package	42				
5	Initial spares for all above equipments	10				
6	Total (Plant & Equipment)	336	663.39			

APPLICANT

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Dhelabagh Small Hydel Project						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Departmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/S Shahabad Engg.	Civil	DCB	3		19-04-2002		669.78		
2		E/M	DCB	3		19-04-2002				

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

FORM- 6

Financial Package upto COD

Name of the Utility / Company
Name of the Hydro Power Station
Project Cost as on COD¹
Date of Commercial Operation of the Station²

Bihar State Hydroelectric Power Corporation Ltd.
Dhelabagh Small Hydel Project
 907.33 Lakh
 Aug-06

(Amount in lakhs)

	Financial Package as Approved		<u>Financial Package as on COD</u>		As Admitted on COD	
	Currency and Amount³		Currency and Amount³		Currency and Amount³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	506.26	Indian Rs.	506.26	Indian Rs.	506.26
Loan-II GOB	Indian Rs.	213.59	Indian Rs.	196.16	Indian Rs.	196.16
Common Pool/ internal Accrual						
Unpaid IDC/FC			Indian Rs.	176.82	Indian Rs.	176.82
Subsidy (MNES)	India Rs	36.4	Indian Rs.	162.5	Indian Rs.	162.5
and so on						
Equity-						
Foreign						
Domestic			Indian Rs.	77.12	Indian Rs.	77.12
Total Equity						
Debt : Equity Ratio						

756.25

1118.855

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Details of Project Specific Loans

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	NABARD	GoB				
Currency ²	Indian Rs.	Indian Rs.				
Amount of Loan sanctioned	506.26	196.16				
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	506.26	196.16				
Interest Type ⁶	Fixed	Fixed				
Fixed Interest Rate, if applicable	6% & 13%	13%				
Base Rate, if Floating Interest ⁷	NA	13%				
Margin, if Floating Interest ⁸	No	No				
Are there any Caps/Floor ⁹	No	No				
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	2 year	1 Year				
Moratorium effective from	16.01.2003	15.12.2003				
Repayment Period ¹¹	5 year	10 Year				
Repayment effective from	01.04.2009	15.12.2004				
Repayment Frequency ¹²	Annual					
Repayment Instalment ^{13,14}	101.252	Annual				
Base Exchange Rate ¹⁶		19.62				

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Dhelabagh Small Hydel Project

COD :

(Amt in Cr)

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.00		0.00
2	2011-12	Plant & Machinery	0.10		0.10
3	2012-13	Plant & Machinery	4.96		4.96
4	2013-14	Plant & Machinery	0.0030		0.0030
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		5.06		5.06

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

Date of Commercial Operation:

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.00	0.10	4.96	0.0030	0.0001	-	-
Financing Details							
Loan-1	0.00	0.07	3.47	0.0021	0.0001	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.00	0.03	1.49	0.0009	0.0000	-	-
Internal Resources							
Others							
Total	0.00	0.10	4.96	0.0030	0.0001	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.24	0.24	0.46	0.46	0.46	0.46	0.50
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.24	0.24	0.46	0.46	0.46	0.46	0.50
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.24	0.24	0.46	0.46	0.46	0.46	0.50
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.24	0.24	0.46	0.46	0.46	0.46	0.50
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.48	0.24	0.46	0.46	0.46	0.46	6.29

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2010 or as on COD, whichever is later	Addition during FY 2010-11	Cost of asset as on 31.03.2011 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount for FY 2010-11	Depreciation Amount for FY 2011-12
	1	2	3	4	5	6(Col.4 X Col.5)	7(Col.4 X Col.5)
1	Power House	NA					
2	Main Generating equipment						
	TOTAL						
	Weighted Average Depreciation Rate (%)						

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Power Station: Dhelabagh Small Hydel Project

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	NABARD/State govt.	NABARD/State govt.	NABARD/State govt.	NABARD/State govt.	NABARD/State govt.	NABARD/State govt.
	Gross loan - Opening	506.26	506.26	506.26	506.26	506.26	506.26
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	506.26	506.26	506.26	506.26	506.26	506.26
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	506.26	506.26	506.26	506.26	506.26	506.26
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing	506.26	506.26	506.26	506.26	506.26	506.26
	Average Net Loan						
	Rate of Interest on Loan	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
	Interest on loan	32.91	32.91	32.91	32.91	32.91	32.91
	Loan-2	GOB	GOB	GOB	GOB	GOB	GOB
	Gross loan - Opening	0	0	0	0	0	0
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	0	0	0	0	0	0
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	0	0	0	0	0	0
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing	0	0	0	0	0	0
	Average Net Loan						
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	24.77	24.77	20.01	20.01	20.01	20.01
	Total Loan						
	Gross loan - Opening	506.26	506.26	506.26	506.26	506.26	506.26
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	506.26	506.26	506.26	506.26	506.26	506.26
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	506.26	506.26	506.26	506.26	506.26	506.26
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing	506.26	506.26	506.26	506.26	506.26	506.26
	Average Net Loan						
	Interest on loan	57.68	57.68	52.92	52.92	52.92	52.92
	Weighted average Rate of Interest on Loans	11.39%	11.39%	10.45%	10.45%	10.45%	10.45%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Dhelabagh Small Hydel Project

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	Not Applicable				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd.
Name of the Hydro Power Station Dhelabagh Small Hydel Project

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.02	0.02	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	0.06	0.06	0.12	0.12	0.12	0.12	0.13
3	Recievables	0.15	0.15	0.22	0.26	0.23	0.22	0.27
	Total Working Capital	0.23	0.23	0.36	0.39	0.36	0.35	0.41
	Rate of Interest	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%	10.75%
	Interest on Working Capital	0.02	0.02	0.04	0.04	0.04	0.04	0.04

Applicant

Name of the Utility / Company
Name of the Hydro Power Station

Bihar State Hydroelectrical Power Corporation Ltd
Dhelabagh Small Hydel Project

Draw Down Schedule for Calculation of IDC & Financing Charges

(Amount in Lakhs)																			
Sl. No.	Draw Down Particulars	2003-2004	2004-2005	2005-2006		2006-2007			2007-2008			2008-2009 to 2015-16							
		Quantum in Foreign currency	Exchange Rate on draw down	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee			
1	Loans																		
1.1	Foreign Loans																		
1.1.1	Foreign Loan 1																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.2	Foreign Loan 2																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.3	Foreign Loan 3																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.4	--																		
	--																		
	--																		
1.1	Total Foreign Loans																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2	Indian Loans																		
1.2.1	Indian Loan 1																		
	Draw down Amount		45.84			278.08			722.91			947.33			947.33			947.33	
	IDC																		
	Financing charges		NIL			15.9			20.61			32.25			32.25			32.25	
1.2.2	Indian Loan 2																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2.3	Indian Loan 3																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2.4	--																		
	--																		
	--																		
1.2	Total Indian Loans																		
	Draw down Amount		45.84			278.08			722.91			947.33			947.33			947.33	
	IDC																		
	Financing charges		NIL			15.9			20.61			32.25			32.25			32.25	
1	Total of Loans drawn		45.84			278.08			722.91			947.33			947.33			947.33	
	IDC																		
	Financing charges		NIL			15.9			20.61			32.25			32.25			32.25	
2	Equity																		
2.1	Foreign equity drawn																		
2.2	Indian equity drawn																		
	Total equity deployed		45.84			293.98			743.52			979.58			979.58			979.58	

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility : Bihar State Hydroelectrical Power Corporation Ltd

Name of the Power Station : Dhelabagh Small Hydel Project

(Rs in Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	4	5	6	7	8	9
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.21	0.22	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered , if any							
	Net Expenses							

Notes:

I. The process of allocation of corporate expenses to generating stations should be specified

II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained

III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

JAINAGRA
Checklist of Forms and other information/ documents for tariff filing for Jainagra
Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1

Summary of Tariff Proposal

Name of the Company / Utility: _____

Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : _____

Jainagra

Region

State

Bihar

District

(Rs. in Cr)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	0.34	0.52	0.76	1.00	1.24	1.48	3.52
#	Interest on Loan	FORM- 13	-	-	-	-	-	-	-
#	Return on Equity ¹		0.00	0.00	0.03	0.06	0.06	0.06	0.06
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.02	0.02	0.03	0.03	0.03	0.03	0.03
#	O & M Expenses	FORM- 17	0.21	0.22	0.24	0.23	0.15	0.14	0.22
			0.57	0.77	1.06	1.32	1.48	1.70	3.84

1 Details of calculations to be furnished.

Applicant

FORM-2**Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.****NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.****NAME OF Hydro POWER STATION : Jainagra Small Hydel Project**

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2009-10
1	Installed Capacity	MW	2 (2 X 0.5)
2	Free power to home state	%	NA
3	Date of commercial operation		
	Unit-1		29.12.2008
	Unit-2		29.12.2008
	Unit-3		NIL
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		NA
5	Type of excitation		
	a) Rotaing exciters on generator		
	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	7.2
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	7.16
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.**APPLICANT**

FORM-3**SALIENT FEATURES OF HYDROELECTRIC PROJECT****NAME OF Utility / COMPANY:** Bihar State Hydroelectrical Power Corporation Ltd.**NAME OF Hydro POWER STATION:** Jainagara Small Hydel Project

1. Location	
State/Distt.	Bihar/Rohtas
River	Sone
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	BW-11-452 M, FSD - 3.21 M, Trapezoidal
Length	220 m
Design discharge(Cumecs)	32.89
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	
Diameter & Length	
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	
Peaking capacity during lean period (MW)	2X0.5
Type of turbine	NA
Rated Head(M)	
Rated Discharge(Cumecs)	
11. Tail Race Tunnel	
Diameter, shape	
Length	
Minimum tail water level	
12. Switchyard	
Type of Switch gear	
No. of generator bays	1
No. of Bus coupler bays	NIL
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station _____ Jainagra Small Hydel Project

Exchange rate at COD _____ NA

Exchange rate as on 31.03. _____ NA

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	<div>Not applicable</div>											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : Jainagra Small Hydel Project

(Rs in Cr)

<u>Capital cost admitted as on</u>	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr)	3.81	4.03	5.22	5.32	5.32	5.32	5.32
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<u>Total Capital cost to be admitted (Rs. Lakh)</u>	<u>3.81</u>	<u>4.03</u>	<u>5.22</u>	<u>5.32</u>	<u>5.32</u>	<u>5.32</u>	<u>5.32</u>

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of the **Utility / Company** : **Bihar State Hydroelectrical Power Corporation Ltd.**
 Name of the **Hydro Power Station** : **Jainagra Small Hydel Project**

Name of the Authority approving the project

Date of approval of the Capital cost

Price level of approved estimates

Foreign Exchange rate considered for the

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)

IDC & FC

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Not Applicable

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

Applicant

FORM-5B							
<u>Break up of Capital cost (for hydro power generating station)</u>							
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.							
NAME OF Hydro POWER STATION: Jainagra Small Hydel Project							
						(Amt in Lakh)	
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per BERC order dt 15.12.21	
1	2	3	4	5	6	7	
1	Infrastructure Works						
1.1	Preliminary including Development	5.11	443.19		The preliminary expenses, development expenditure and advance could not be adjusted. As such this variation has been soon.		
1.2	Land	7.73					
1.3	Buildings	20.6					
1.4	Township						
1.5	Maintenance						
1.6	Tools & Plants						
1.7	Communication						
1.8	Environment & Ecology						
1.9	Losses on stock						
1.1	Receipt & Recoveries						
1.11	Total (Infrastructure works)	33.44					
2	Major Civil Works						
2.1	Dam, Intake & Desilting Chambers						
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Power channel and Tail race channel						
2.3	Power Plant civil works (Power house)	120.65					
2.4	Other civil works (DLR bridge, miscellaneous work)						
2.5	Total (Major Civil Works)	120.65					
3	Hydro Mechanical equipments	297.24	620.19				
4	Plant & Equipment						
4.1	Initial spares of Plant & Equipment	31					
4.2	Total (Plant & Equipment)	31					
5	Taxes and Duties						
5.1	Custom Duty/Excise duty						
5.2	Other taxes & Duties						
5.3	Total Taxes & Duties						
6.0	Construction & Pre-commissioning expenses						
6.1	Erection, testing & commissioning						
6.2	Construction Insurance						
6.3	Site supervision						
6.4	Total (Const. & Pre-commissioning)						
7	Overheads						
7.1	Establishment	24.38					
7.2	Design & Engineering						
7.3	Audit & Accounts	4.82					
7.4	Contingency	19.47					
7.5	Rehabilitation & Resettlement						
7.6	Total (Overheads)	48.67					
8	Capital Cost without IDC & FC	531.00					
9	Financing charges (FC)						
10	Interest during construction (IDC)	5.31					
11	Capital Cost with IDC & FC	536.31					
	Total Capital Cost with IDC & FC	536.31	1063.38			531	

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Jainagra Small Hydel Project

(Rs. in Lakh)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board (switch board panels)					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Transmission line					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane	328.24	620.19			
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)	328.24	620.19			

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Jainagra Small Hydel Project						
Sl.No.	Name/No. of Constructi on / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completio n of Work	Value of Award ¹ in (Rs. In Lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/s DBS Const. Pvt. Ltd.	Civil	DCB	3		30-06-2004		530.68		
2	M/s VA Tech. Turnkey	E/M	DCB	3		30-06-2004				

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

FORM- 6**Financial Package upto COD**

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station Jainagra
Project Cost as on COD¹ NA
Date of Commercial Operation of the Station² 30.12.2008

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	403.7	Indian Rs.	403.7	Indian Rs.	403.7
Loan-II GOB	Indian Rs.	173.6	Indian Rs.	159.43	Indian Rs.	159.43
Common pool/internal accrual			Indian Rs.	26.67	Indian Rs.	26.67
Unpaid IDC/FC	Indian Rs.	5.31	Indian Rs.	196.78	Indian Rs.	196.78
Subsidy (MNES)	Indian Rs.	112.5	Indian Rs.	150	Indian Rs.	150
Equity-		Nil				
Foreign		Nil				
Domestic		Nil	Indian Rs.	127.1	Indian Rs.	127.1
Total Equity		Nil				
Debt : Equity Ratio						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Details of Project Specific Loans

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	NABARD	GoB				
Currency ²	Indian Rs.	Indian Rs.				
Amount of Loan sanctioned	403.7	173.6				
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	403.7	173.6				
Interest Type ⁶	Fixed	Fixed				
Fixed Interest Rate, if applicable	6%	13%				
Base Rate, if Floating Interest ⁷	6%	13%				
Margin, if Floating Interest ⁸	No	No				
Are there any Caps/Floor ⁹	No	No				
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	2 year	1 year				
Moratorium effective from	15-12-2003	15-12-2003				
Repayment Period ¹¹	5 year	10 year				
Repayment effective from	01.04.2009	15-12-2004				
Repayment Frequency ¹²	Annual	Annual				
Repayment Instalment ^{13,14}	80.74	17.36				
Base Exchange Rate ¹⁶	NA	NA				

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	NA					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given seperately in the same form.⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Jainagra Small Hydel Project

(Amt in Cr)

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.00		0.00
2	2011-12	Plant & Machinery	0.22		0.22
3	2012-13	Plant & Machinery	1.19		1.19
4	2013-14	Plant & Machinery	0.09		0.09
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		1.51		1.51

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.

APPLICANT

FORM - 10

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

Date of Commercial Operation: Mar-08

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.00	0.22	1.19	0.09	0.00	-	-
Financing Details							
Loan-1	0.00	0.15	0.83	0.07	0.00	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.00	0.07	0.36	0.03	0.00	-	-
Internal Resources							
Others							
Total	0.00	0.22	1.19	0.09	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.17	0.18	0.24	0.24	0.24	0.24	0.24
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.17	0.18	0.24	0.24	0.24	0.24	0.24
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.17	0.18	0.24	0.24	0.24	0.24	0.24
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.17	0.18	0.24	0.24	0.24	0.24	0.24
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.34	0.52	0.76	1.00	1.24	1.48	3.52

¹ Depreciation recovered in Tariff upto _____ to be furnished with yearwise details in the same form separately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2008 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4 (Col.2 X Col.3)
1	NA			
2				
3				
4				
5				
6				
7				
8				
9				
32				
	TOTAL	0		0
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Power Station: Jainagra Small Hydel Project

(Amount in lakhs)

Sl. no.	Particulars						
1	2	3	4	5	6	7	8
	Loan-1						
	Gross loan - Opening						
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total						
	Repayment (s) of Loans during the year						
	Net loan - Closing						
	Average Net Loan						
	Rate of Interest on Loan						
	Interest on loan						
	Loan-2						
	Gross loan - Opening						
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total						
	Repayment (s) of Loans during the year						
	Net loan - Closing						
	Average Net Loan						
	Rate of Interest on Loan						
	Interest on loan						
	Loan-3 and so on						
	Gross loan - Opening						
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total						
	Repayment (s) of Loans during the year						
	Net loan - Closing						
	Average Net Loan						
	Rate of Interest on Loan						
	Interest on loan						
	Total Loan						
	Gross loan - Opening						
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening						
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total						
	Repayment (s) of Loans during the year						
	Net loan - Closing						
	Average Net Loan						
	Interest on loan						
	Weighted average Rate of Interest on Loans						

Not Applicable

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Original currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Jainagra Small Hydel Project

(Amount in lakhs)

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	Nil				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd.
Name of the Hydro Power Station Jainagra Small Hydel Project

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.02	0.02	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	0.04	0.05	0.06	0.06	0.06	0.06	0.06
3	Recievables	0.13	0.13	0.14	0.15	0.13	0.13	0.14
	Total Working Capital	0.19	0.19	0.22	0.23	0.20	0.20	0.22
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	0.02	0.02	0.03	0.03	0.03	0.03	0.03

Applicant

[illegible]

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility: Bihar State Hydroelectrical Power Corporation Ltd.
Name of the Power Station : Jainagra Small Hydel Project

(Rs. In Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.21	0.22	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered, if any							
	Net Expenses							

Notes:

- I. The process of allocation of corporate expenses to generating stations should be specified
- II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained
- III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

KOSI-KATAIYA

Checklist of Forms and other information/ documents for tariff filing for KosiHydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility:
Name of the Hydro Power Station
Region

Bihar State Hydroelectrical Power Corporation Ltd.
Kosi Small HEP

State Bihar District Supaul

(Rs. in Cr)

S.No.	Particulars		<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	0.00	0.27	1.27	2.26	3.26	4.25	11.22
#	Interest on Loan	FORM- 13A	-	-	-	-	-	-	-
#	Return on Equity ¹		0.00	0.13	0.59	0.93	0.93	0.93	0.93
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.13	0.16	0.23	0.24	0.19	0.18	0.24
#	O & M Expenses	FORM- 17	3.95	4.24	4.60	4.39	2.87	2.62	4.25
			4.08	4.80	6.69	7.82	7.24	7.98	16.63

1 Details of calculations to be furnished.

Applicant

FORM-2

Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd. _____

NAME OF Hydro POWER STATION : Kosi Small HEP

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	19.2 (4 X 4800 kW)
2	Free power to home state	%	
3	Date of commercial operation		Nov 2003 Project handed over BHEPCL by Electric Board
—	Unit-1		
—	Unit-2		
—	Unit-3		
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Purely ROR
—	c) Peaking/non-peaking		Non peaking
—	d) No. of hours of peaking		NA
—	e) Overload capacity(MW) & period		
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		
6	Design Energy (Annual) ¹	Gwh	99
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	98.01
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Kosi Small HEP

1. Location	
State/Distt.	Bihar/Supaul
River	Kosi Main Canal
2. Diversion Tunnel	
Size, shape	Trapezoidal
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	
Number and Size	
Particle size to be removed(mm)	
7. Head Race Tunnel	
Size and type	Unlined Trapezoidal Canal BW 108 m
Length	3.6 km
Design discharge(Cumecs)	425 cumecs
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	
Diameter & Length	
10. Power House	
Type	Surface type
Installed capacity (No of units x MW)	4 X 4800 kW
Peaking capacity during lean period (MW)	NA
Type of turbine	Kaplan (Bulb)
Rated Head(M)	6.1
Rated Discharge(Cumecs)	104.5 cumecs (3670 cusecs)
11. Tail Race Tunnel	
Diameter, shape	Earthen. BW 108m OWL 23271 SPD, MWL 22971 SPD
Length	
Minimum tail water level	
12. Switchyard	
Type of Switch gear	Outdoor
No. of generator bays	
No. of Bus coupler bays	
No. of line bays	

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station _____ Kosi Small HEP

(Amount in lakhs)

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	<div>Not applicable</div>											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station : Kosi Small HEP

(Amt. in Cr)

<u>Capital cost admitted as on -----</u>	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
—							
Foreign Component, if any (in Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
—							
<u>Domestic Component (Rs. Cr.)</u>	0.01	6.05	22.07	22.09	22.09	22.09	22.10
—							
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
—							
<u>Total Capital cost to be admitted (Rs. Cr)</u>	<u>0.01</u>	<u>6.05</u>	<u>22.07</u>	<u>22.09</u>	<u>22.09</u>	<u>22.09</u>	<u>22.10</u>

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projectsName of the **Utility / Company** : _____Name of the **Hydro Power Station** :**New Projects** **Yes** **Under construction****Capital Cost Estimates**

Name of the Authority approving the project cost estimates:

Bihar govt.

Date of approval of the Capital cost estimates:

Price level of approved estimates

Estimated Cost
As of End of Qtr. Of
the year**Completed Cost**
As on Scheduled COD of
the Station

Foreign Exchange rate considered for the capital cost estimates

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$ or the relevant Currency)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$ or the relevant Currency)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

APPLICANT

FORM-5B						
Break up of Capital cost (for hydro power generating station)						
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd						
NAME OF Hydro POWER STATION: Kosi Small HEP						
(Rs. in crore)						
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development					
1.2	Land					
1.3	Buildings					
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants					
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)					
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts					
2.3	Power Plant civil works					
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)					
2.5	Total (Major Civil Works)					
3	Hydro Mechanical equipments					
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)					
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC					

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Kosi Small HEP

(Rs. in crore)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)					

Not Applicable

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Kosi Small HEP						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Cr.)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier (Rs. Cr.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Not Applicable										
<p>1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.</p> <p style="text-align: right;">APPLICANT</p>										

FORM- 6

Financial Package upto COD

Name of the Utility / Company

Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station

Kosi Small HEP

Project Cost as on COD¹

NA

Date of Commercial Operation of the Station²

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	Not Applicable				
Loan-II GOB	Indian Rs.					
Loan-III						
and so on						
Equity-						
Foreign						
Domestic						
Total Equity						
Debt : Equity Ratio						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

FORM- 7**Details of Project Specific Loans****Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.****Name of the Hydro Power Station: Kosi Small HEP**

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB					
Currency ²	Indian Rs					
Amount of Loan sanctioned	3284					
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	3284					
Interest Type ⁶	Fixed					
Fixed Interest Rate, if applicable	13%					
Base Rate, if Floating Interest ⁷	13%					
Margin, if Floating Interest ⁸	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.**APPLICANT**

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Kosi Small HEP

(Amount in lacs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.

Name of Hydro Power Station: Kosi Small HEP

(Amt in Cr)

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off Date ¹	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.01		0.01
2	2011-12	Plant & Machinery	6.04		6.04
3	2012-13	Plant & Machinery	16.02		16.02
4	2013-14	Plant & Machinery	0.02		0.02
5	2014-15	Plant & Machinery	0.00		0.00
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		22.09		22.09

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment, then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs. etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Kosi Small HEP

Date of Commercial Operation:

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.01	6.04	16.02	0.02	0.00	-	-
Financing Details							
Loan-1	0.01	4.23	11.22	0.01	0.00	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.00	1.81	4.81	0.01	0.00	-	-
Internal Resources							
Others							
Total	0.01	6.04	16.02	0.02	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

FORM- 11

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Kosi Small HEP

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4				5
Depreciation on Capital Cost	0.00	0.27	0.99	0.99	0.99	0.99	1.00
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.00	0.27	0.99	0.99	0.99	0.99	1.00
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.00	0.27	0.99	0.99	0.99	0.99	1.00
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.00	0.27	0.99	0.99	0.99	0.99	1.00
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.00	0.27	1.27	2.26	3.26	4.25	11.22

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Kosi Small HEP

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.____ or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Land	Not applicable		
2	Building			
3	and so on			
4				
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Power Station: Kosi Small HEP

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1						
	Gross loan - Opening	3284	3284	3284	3284	3284	3284
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening	3284	3284	3284	3284	3284	3284
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	3284	3284	3284	3284	3284	3284
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	3284	3284	3284	3284	3284	3284
	Average Net Loan	3284	3284	3284	3284	3284	3284
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	437.59	437.59	344.82	344.82	344.82	344.82
	Total Loan						
	Gross loan - Opening	3284	3284	3284	3284	3284	3284
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening	3284	3284	3284	3284	3284	3284
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	3284	3284	3284	3284	3284	3284
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	3284	3284	3284	3284	3284	3284
	Average Net Loan	3284	3284	3284	3284	3284	3284
	Interest on loan	437.59	437.59	344.82	344.82	344.82	344.82
	Weighted average Rate of Interest on Loans	13%	13%	10.50%	10.50%	10.50%	10.50%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Original currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Kosi Small HEP

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	NA				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company _____ Bihar State Hydroelectric Power Corporation Ltd.
 Name of the Hydro Power Station Kosi Small HEP

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	10
1	O & M expenses	0.33	0.35	0.38	0.37	0.24	0.22	0.35
2	Maintenance Spares	0.00	0.07	0.25	0.25	0.25	0.25	0.25
3	Recievables	0.68	0.83	1.20	1.29	1.01	0.95	1.25
	Total Working Capital	1.01	1.26	1.83	1.90	1.50	1.42	1.85
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	0.13	0.16	0.23	0.24	0.19	0.18	0.24

Applicant

Name of the Utility / Compan Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station Kosi Small HEP

Draw Down Schedule for Calculation of IDC & Financing Charges

(Amount in Lakhs)																
Sl. No.	Draw Down															
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans															
1.1	Foreign Loans															
1.1.1	Foreign Loan 1															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.2	Foreign Loan 2															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.3	Foreign Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.4	--															
	--															
	--															
1.1	Total Foreign Loans															
	Draw down Amount															
	IDC															
	Financing charges															
1.2	Indian Loans															
1.2.1	Indian Loan 1															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.2	Indian Loan 2															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.3	Indian Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.4	--															
	--															
	--															
1.2	Total Indian Loans															
	Draw down Amount															
	IDC															
	Financing charges															
1	Total of Loans drawn															
	IDC															
	Financing charges															
2	Equity															
2.1	Foreign equity drawn															
2.2	Indian equity drawn															
	Total equity deployed															

Not Applicable

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility :Bihar State Hydroelectric Power Corporation Ltd.

Name of the Power Station : Kosi Small HEP

(Rs. In Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	3.95	4.24	4.60	4.39	2.87	2.62	4.25
	LESS: Recovered , if any							
	Net Expenses							

Notes:

I. The process of allocation of corporate expenses to generating stations should be specified

II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained

III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

NASRIGANJ

Checklist of Forms and other information/ documents for tariff filing for Nasriganj Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1**Summary of Tariff Proposal**

Name of the Company / Utility:
Name of the Hydro Power Station
Region

Bihar State Hydroelectrical Power Corporation Ltd.
 Nasriganj Small Hydel Project
State Bihar **District** Rohtas

(Rs. in Cr)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2022-23
1	2		3	4	5	6	7	8	9
1	Depreciation	FORM- 11	0.36	0.55	0.77	0.99	1.21	1.44	3.37
2	Interest on Loan	FORM- 13	0.43	0.52	0.45	0.45	0.45	0.45	0.00
3	Return on Equity ¹		0.01	0.01	0.03	0.04	0.04	0.04	0.04
4	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
5	Interest on Working Capital	FORM- 15	0.03	0.03	0.03	0.03	0.02	0.02	0.03
6	O & M Expenses	FORM- 17	0.21	0.22	0.24	0.23	0.15	0.14	0.22
			1.02	1.33	1.52	1.74	1.88	2.09	3.66

1 Details of calculations to be furnished.

Applicant

FORM-2

Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION : Nasriganj Small Hydel Project

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	1 (2 X 500 kW)
2	Free power to home state	%	
3	Date of commercial operation		
—	Unit-1		Jul-07
—	Unit-2		Jul-07
—	Unit-3		
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Purely ROR
—	c) Peaking/non-peaking		Non peaking
—	d) No. of hours of peaking		NA
—	e) Overload capacity(MW) & period		NA
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	8.145
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	7.92
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Nasriganj Small Hydel Project

1. Location	
State/Distt.	Bihar/Rohtas
River	Sone
2. Diversion Tunnel	
Size, shape	B.W. 6.927m, FSD 2.15 m, Trapizoidal
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	NA
Length	NA
Design discharge(Cumecs)	NA
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Semi Kaplan Syphon Type
Installed capacity (No of units x MW)	2 X 500 kW
Peaking capacity during lean period (MW)	NA
Type of turbine	Semi Kaplan Syphon Type
Rated Head(M)	4.5 m
Rated Discharge(Cumecs)	25.80 cumecs
11. Tail Race Tunnel	
Diameter, shape	Bed width = 6.927m/ Trapezoidal
Length	180 m
Minimum tail water level	
12. Switchyard	
Type of Switch gear	Outdoor
No. of generator bays	One
No. of Bus coupler bays	NA
No. of line bays	One

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station _____ Nasrigank Small Hydel Project

(Amount in lakhs)

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	<u>Not applicable</u>											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station : Nasriganj Small Hydel Project

(Amt in Cr)

<u>Capital cost admitted as on</u>	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2023-24</u>
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
—							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
—							
<u>Domestic Component (Rs. Cr.)</u>	4.24	4.25	4.83	4.94	4.94	4.94	4.94
—							
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr) 5.98	4.24	4.25	4.83	4.94	4.94	4.94	4.94

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects

Name of the **Utility / Company** : **Bihar State Hydroelectrical Power Corporation Ltd**
 Name of the **Hydro Power Station** : **Nasriganj Small Hydel Project**

New Projects Under construction**Capital Cost Estimates**

Name of the Authority approving the project

Date of approval of the Capital cost

Estimated Cost**Completed Cost**

Price level of approved estimates

As of End of Qtr. Of

As on Scheduled COD of

Foreign Exchange rate considered for the

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Not Applicable

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

APPLICANT

FORM-5B						
Break up of Capital cost (for hydro power generating station)						
NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd						
NAME OF Hydro POWER STATION: Nasriganj Small Hydel Project						
(Rs. in Lakhs)						
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per BERC order dt. 15.12.21
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development	5.11		5.11		
1.2	Land	7.73		7.73		
1.3	Buildings	20.6		20.6		
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants	5		5		
1.7	Communication	2.6		2.6		
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	41.04		41.04		
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Power channel and Tail race channel	43.10		43.10		
2.3	Power Plant civil works (Power house)	95.30	355.57	-260.27		
2.4	Other civil works (DLR bridge, miscellaneous work)	14.00		14.00		
2.5	Total (Major Civil Works)	152.40	355.57	-203.17		
3	Hydro Mechanical equipments		540.75	-540.75		
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty/Excise duty	28.08		28.08		
5.2	Other taxes & Duties	10.48		10.48		
5.3	Total Taxes & Duties	38.56		38.56		
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning	24		24.00		
6.2	Construction Insurance	3		3.00		
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)	27		27.00		
7	Overheads					
7.1	Establishment	24.72				
7.2	Design & Engineering	5				
7.3	Audit & Accounts	4.94				
7.4	Contingency	14.83				
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	49.49	83.16	564.73		
8	Capital Cost without IDC & FC	544.00				
9	Financing charges (FC)					
10	Interest during construction (IDC)	54.4				
11	Capital Cost with IDC & FC	598.40	83.16	564.73		544

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd

NAME OF Hydro POWER STATION: Nasriganj Small Hydel Project

(Rs. in Lakh)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories	0	592.44	592.44		592.44
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board (switch board panels)					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Transmission line					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equip. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)					

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Nasriganj Small Hydel Project						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs.in Lakhs)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs. In Lakhs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/s PCC	Civil	DCB	3	19-04-2002	30-06-2004		213.74	-31.57	182.17
2	M/s VA Tech. Turnkey	E/M	DCB	3	19-04-2002	30-06-2004		354.01	139.45	493.46

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

FORM- 6**Financial Package upto COD****Name of the Utility / Company**

Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station

Nasriganj Small Hydel Project

Project Cost as on COD¹

675.63 Lakh

Date of Commercial Operation of the Station²

Jul-07

(Amount in lakhs)

	Financial Package as Approved		<u>Financial Package as on COD</u>		As Admitted on COD	
	Currency and Amount³		Currency and Amount³		Currency and Amount³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	420.71	Indian Rs.	420.71	Indian Rs.	420.71
Loan-II GOB	Indian Rs.	186.94	Indian Rs.	171.68	Indian Rs.	171.68
Common pool/Internal accrual						
Unpaid IDC/FC			Indian Rs.	157.82	Indian Rs.	157.82
Subsidy (MNES)			Indian Rs.	150	Indian Rs.	150
Equity-						
Foreign						
Domestic			Indian Rs.	85.32	Indian Rs.	85.32
Total Equity			Indian Rs.	85.32	Indian Rs.	85.32
Debt : Equity Ratio						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Details of Project Specific Loans

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Nasriganj Small Hydel Project

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	NABARD	GoB				
Currency ²	Indian Rs.	Indian Rs.				
Amount of Loan sanctioned	420.71	186.94				
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	420.71	171.68				
Interest Type ⁶	Fixed	Fixed				
Fixed Interest Rate, if applicable	6% & 13%	13%				
Base Rate, if Floating Interest ⁷		13%				
Margin, if Floating Interest ⁸	No	No				
Are there any Caps/Floor ⁹		No				
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	2 year	1 year				
Moratorium effective from	16.01.2003	15.12.2003				
Repayment Period ¹¹	5 year	10 year				
Repayment effective from	01.04.2009	15.12.2004				
Repayment Frequency ¹²	Annual	Annual				
Repayment Instalment ^{13,14}	84.142	18.69				
Base Exchange Rate ¹⁶		NA				

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

FORM- 8

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Nasriganj Small Hydel Project

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Nasriganj Small Hydel Project

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	(Amt in Cr) Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.30		0.30
2	2011-12	Plant & Machinery	0.01		0.01
3	2012-13	Plant & Machinery	0.57		0.57
4	2013-14	Plant & Machinery	0.11		0.11
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		1.00		1.00

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment, then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs. etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Nasriganj Small Hydel Project

Date of Commercial Operation: July-07

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.30	0.01	0.57	0.11	0.0001	-	-
Financing Details							
Loan-1	0.21	0.01	0.40	0.08	0.0001	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.09	0.00	0.17	0.03	0.0000	-	-
Internal Resources							
Others							
Total	0.30	0.01	0.57	0.11	0.0001	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Nasriganj Small Hydel Project

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	9
Depreciation on Capital Cost	0.19	0.19	0.22	0.22	0.22	0.22	0.22
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.19	0.19	0.22	0.22	0.22	0.22	0.22
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.19	0.19	0.22	0.22	0.22	0.22	0.22
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.19	0.19	0.22	0.22	0.22	0.22	0.22
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.36	0.55	0.77	0.99	1.21	1.44	3.37

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station: Nasriganj Small Hydel Project

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2008 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	NA			
2				
3				
	TOTAL	0		0
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd

Name of the Power Station: Nasriganj Small Hydel Project

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5			
	Loan-1	NABARD	NABARD	NABARD	NABARD	NABARD	NABARD
	Gross loan - Opening	420.71	420.71	420.71	420.71	420.71	420.71
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening	420.71	420.71	420.71	420.71	420.71	420.71
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	420.71	420.71	420.71	420.71	420.71	420.71
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	420.71	607.65	607.65	607.65	607.65	607.65
	Average Net Loan	Nil	Nil	Nil	Nil	Nil	Nil
	Rate of Interest on Loan	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan	17.75	27.35	27.35	27.35	27.35	27.35
	Loan-2	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	171.68	171.68	171.68	171.68	171.68	171.68
	Cumulative repayments of Loans upto previous year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Opening	171.68	171.68	171.68	171.68	171.68	171.68
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE	Nil	Nil	Nil	Nil	Nil	Nil
	Total	171.68	171.68	171.68	171.68	171.68	171.68
	Repayment (s) of Loans during the year	Nil	Nil	Nil	Nil	Nil	Nil
	Net loan - Closing	171.68	171.68	171.68	171.68	171.68	171.68
	Average Net Loan	Nil	Nil	Nil	Nil	Nil	Nil
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	24.77	24.77	18.03	18.03	18.03	18.03
	Total Loan						
	Gross loan - Opening	592.39	592.39	592.39	592.39	592.39	592.39
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	592.39	592.39	592.39	592.39	592.39	592.39
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	592.39	592.39	592.39	592.39	592.39	592.39
	Repayment (s) of Loans during the year						
	Net loan - Closing	592.39	779.33	779.33	779.33	779.33	779.33
	Average Net Loan						
	Interest on loan	42.52	52.12	45.38	45.38	45.38	45.38
	Weighted average Rate of Interest on Loans	7.18%	6.69%	5.82%	5.82%	5.82%	5.82%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Original currency is also to be furnished separately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd

Name of the Hydro Power Station: Nasriganj Small Hydel Project

(Amount in lakhs)

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	NA				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd
Name of the Hydro Power Station Nasriganj Small Hydel Project

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.02	0.02	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	0.05	0.05	0.05	0.06	0.06	0.06	0.06
3	Receivables	0.13	0.13	0.13	0.14	0.12	0.11	0.13
	Total Working Capital	0.20	0.20	0.21	0.21	0.19	0.18	0.21
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	0.03	0.03	0.03	0.03	0.02	0.02	0.03

Applicant

Name of the Utility / Company Bihar State Hydroelectrical Power Corporation Ltd
 Name of the Hydro Power Station Nasriganj Small Hydel Project

Draw Down Schedule for Calculation of IDC & Financing Charges

Draw Down		(Amount in Lakhs)																	
Sl. No.	Particulars	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009 to 2015-16												
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee			
1	Loans																		
1.1	Foreign Loans																		
1.1.1	Foreign Loan 1																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.2	Foreign Loan 2																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.3	Foreign Loan 3																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.1.4	--																		
	--																		
	--																		
1.1	Total Foreign Loans																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2	Indian Loans																		
1.2.1	Govt of Bihar																		
	Draw down Amount		16.76			44.21			308.78			675.59			675.59				
	IDC																		
	Financing charges		Nil			15.9			20.61			32.25			32.25				
1.2.2	Indian Loan 2																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2.3	Indian Loan 3																		
	Draw down Amount																		
	IDC																		
	Financing charges																		
1.2.4	--																		
	--																		
	--																		
1.2	Total Indian Loans																		
	Draw down Amount		16.76			44.21			308.78			675.59			675.59				
	IDC																		
	Financing charges		Nil			15.9			20.61			32.25			32.25				
1	Total of Loans drawn		16.76			44.21			308.78			675.59			675.59				
	IDC																		
	Financing charges		Nil			15.9			20.61			32.25			32.25				
2	Equity																		
2.1	Foreign equity drawn																		
2.2	Indian equity drawn																		
	Total equity deployed		16.76			60.11			329.39			707.84			707.84				
Note: Drawal of debt and equity shall be on pariopassu basis to meet the commissioning schedule.																			

APPLICANT

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility :Bihar State Hydroelectrical Power Corporation Ltd

Name of the Power Station : Nasriganj Small Hydel Project

(Amt in Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.21	0.22	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered , if any							
	Net Expenses							

Notes:

- I. The process of allocation of corporate expenses to generating stations should be specified
 II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained
 III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

(APPLICANT)

SEBARI		
Checklist of Forms and other information/ documents for tariff filing for Sebari Hydro Power Generating Station		
Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓
Other Information/ Documents		
Sl. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencing Business, Memorandum of Association & Article of Association (for new station set up by a company making tariff application for the first time to CERC)	-
2	Stationwise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the station and for the relevant years.	Submitted with true-up petition
3	Copies of relevant loan agreements	Submitted with true-up petition
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	
5	Copies of the Equity participation agreements and necessary approval for the foreign equity	-
6	Copies of the BPSA/PPA with the beneficiaries, if any	-
7	Detailed note giving reasons of time and cost over run, if applicable.	-
8	Any other relevant information (if any, to be specified)	-

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1									
Summary of Tariff Proposal									
Name of the Company / Utility:		Bihar State Hydroelectrical Power Corporation Ltd.							
Name of the Hydro Power Station		Sebari							
Region	-	State	Bihar	District	Rohtas				
(Rs. in Cr)									
S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
1	Depreciation	FORM- 11	0.40	0.41	0.88	1.35	1.82	2.29	5.99
2	Interest on Loan	FORM- 13A	0.46	0.42	0.42	0.42	0.42	0.42	0.00
3	Return on Equity ¹		0.36	0.39	0.42	0.44	0.44	0.44	0.44
4	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
5	Interest on Working Capital	FORM- 15	0.05	0.04	0.05	0.05	0.05	0.05	0.05
6	O & M Expenses	FORM- 17	0.21	0.22	0.24	0.23	0.15	0.14	0.22
—			1.48	1.49	2.02	2.49	2.88	3.34	6.70

1 Details of calculations to be furnished.

Applicant

FORM-2			
Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.			
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station		Sebari	
Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	2 X 0.5
2	Free power to home state	%	
3	Date of commercial operation		
—	Unit-1		Sep-10
—	Unit-2		Sep-10
—	Unit-3		-
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Canal based
—	c) Peaking/non-peaking		Non - peaking
—	d) No. of hours of peaking		
—	e) Overload capacity(MW) & period		
5	Type of excitation		
—	a) Rotaing excitors on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	7.5
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	7.42
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3	
SALIENT FEATURES OF HYDROELECTRIC PROJECT	
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.
Name of Hydro Power station	Sebari
1. Location	
State/Distt.	Bihar / Rohtas
River	
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	8.740 m (W) Trapezoidal
Length	30m
Design discharge(Cumecs)	35.97
8. Surge Shaft	
Type	
Diameter	
Height	
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	1.0 (2 X 0.5)
Peaking capacity during lean period (MW)	
Type of turbine	
Rated Head(M)	
Rated Discharge(Cumecs)	
11. Tail Race Tunnel	
Diameter, shape	Trapezoidal
Length	30m x 11.75
Minimum tail water level	86.79
12. Switchyard	
Type of Switch gear	
No. of generator bays	1
No. of Bus coupler bays	
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4													
Details of Foreign loans													
(Details only in respect of loans applicable to the project under consideration)													
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.												
Name of Hydro Power station	Sebari												
Exchange rate at CoD													
Exchange rate as on 31.03.													
(Amount in lakhs)													
Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on				
1	2	3	4	5	6	7	8	9	10	11	12	13	
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	
Currency1 ¹	Not applicable												
At the date of Drawl ²													
Scheduled repayment date of principal													
Scheduled payment date of interest													
At the end of Financial year													
Currency2 ¹													
At the date of Drawl ²													
Scheduled repayment date of principal													
Scheduled payment date of interest													
At the end of Financial year													
Currency3 ¹ & so on													
At the date of Drawl ²													
Scheduled replacement date of principal													
Scheduled payment date of interest													
At the end of Financial year													

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.
2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5							
<u>Abstract of Admitted Capital Cost for the existing Project</u>							
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.						
Name of Hydro Power station	Sebari (Amt in Cr)						
Capital cost admitted as on	2010-11	2011-12	2012-13	20213-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	8.83	9.84	10.35	10.44	10.45	10.45	10.45
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr) INR 13.04 cr	8.83	9.84	10.35	10.44	10.45	10.45	10.45

APPLICANT

FORM-5A		
Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects		
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station	Sebari	
New Projects	No	
Capital Cost Estimates (Rs. In Cr)		
Name of the Authority approving the project cost estimates:	-	
Date of approval of the Capital cost	-	
	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr.	As on Scheduled COD of
Foreign Exchange rate considered for the capital cost estimates		
Capital Cost excluding IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Cr.)		
Capital cost excluding IDC & FC (Rs. Cr)		
IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Total Capital Cost Domestic Component (Rs. Cr.)		
IDC & FC (Rs.Cr.)	5.68	8.41
Rate of taxes & duties considered		
Schedule dates of Commissioning		
COD of Unit-I	Jan-10	Sep-10
COD of Unit-II		
COD of last Unit		
Note:		
1. Copy of approval letter should be enclosed.		
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.		
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.		
		Applicant

Form - 5B							
Break up of Capital cost (for hydro power generating station)							
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.					
Name of Hydro Power station		Sebari					
(Amt. in Cr.)							
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost	
1	2	3	4	5	6	7	
1	Infrastructure Works		Break up provided in Annexure I		Reasons for variation has been submitted with the Petition		
1.1	Preliminary including Development	0.05					
1.2	Land	0.08					
1.3	Buildings	0.21					
1.4	Township						
1.5	Maintenance						
1.6	Tools & Plants	0.05					
1.7	Communication						
1.8	Environment & Ecology						
1.9	Losses on stock						
1.1	Receipt & Recoveries						
1.11	Total (Infrastructure works)	0.38					
2	Major Civil Works						
2.1	Dam, Intake & Desilting Chambers						
2.2	HRT, TRT, Surge Shaft & Pressure shafts						
2.3	Power Plant civil works						
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)						
2.5	Total (Major Civil Works)	1.59					
3	Hydro Mechanical equipments	0.03					
4	Plant & Equipment	3.03					
4.1	Initial spares of Plant & Equipment						
4.2	Total (Plant & Equipment)						
5	Taxes and Duties						
5.1	Custom Duty						
5.2	Other taxes & Duties						
5.3	Total Taxes & Duties						
6.0	Construction & Pre-commissioning expenses						
6.1	Erection, testing & commissioning						
6.2	Construction Insurance						
6.3	Site supervision						
6.4	Total (Const. & Pre-commissioning)						
7	Overheads						
7.1	Establishment	0.26					
7.2	Design & Engineering						
7.3	Audit & Accounts	0.05					
7.4	Contingency	0.16					
7.5	Rehabilitation & Resettlement						
7.6	Total (Overheads)	0.46					
8	Capital Cost without IDC & FC						
9	Financing charges (FC)						
10	Interest during construction (IDC)						
11	Capital Cost with IDC & FC (INR Cr)	5.68	8.41				

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

Applicant

Form - 5C							
Break up of Capital cost for plant & equipment							
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.					
Name of Hydro Power station		Sebari					
Sl. No.	Head of works	Original Cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost	
1	2	3	4	5	6	7	
1	Generator, turbine & Acessories						
1.1	Generator package		Breakup provided in Annexure I				
1.2	Turbine package						
1.3	Unit control Board						
1.4	C&I package						
1.5	Bus Duct of GT connection						
1.6	Total (Generator, turbine & Acessories)						
2	Auxiliary Electrical Equipment						
2.1	Step up transformer						
2.2	Unit Auxiliary Transformer						
2.3	Local supply transformer						
2.4	Station transformer						
2.5	SCADA						
2.6	Switchgear, Batteries, DC dist. Board						
2.7	Telecommunication equipment						
2.8	Illumination of Dam, PH and Switchyard						
2.9	Cables & cable facilities, grounding						
2.1	Diesel generating sets						
2.11	Total (Auxiliary Elect. Equipment)						
3.0	Auxiliary equipment & services for power station						
3.1	EOT crane						
3.2	Other cranes						
3.3	Electric lifts & elevators						
3.4	Cooling water system						
3.5	Drainage & dewatering system						
3.6	Fire fighting equipment						
3.7	Air conditioning, ventilation and heating						
3.8	Water supply system						
3.9	Oil handling equipment						
3.1	Workshop machines & equipment						
3.11	Total (Auxiliary equipt. & services for PS)						
4	Switchyard package						
5	Initial spares for all above equipments						
6	Total (Plant & Equipment) (Rs in Cr)	3.03					

APPLICANT

FORM-5D										
Name of Utility				Bihar State Hydroelectric Power Corporation Ltd.						
Name of Hydro Power Station				Sebari						
				(Amt in Lakhs)						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Lakh)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs. In Lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/S HPP ENERGY PVT LTD	E/M			06.06.2005		Sep-10	391.45		840.52
2	M/S Village Electrification Wok	Civil			25.03.2009			173.24		
3	Other	Other			-			236.91		

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

Form - 6						
Financial Package upto COD						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Sebari					
Project Cost as on COD ¹	-					
Date of Commercial Operation of the Station ²	Sep-10					
(Amount in lakhs)						
			Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	399.11	Indian Rs.	399.11	Indian Rs.	840.52
Loan-II GOB	Indian Rs.	155.23	Indian Rs.	155.23	Indian Rs.	
Loan-III	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
and so on						
Equity-						
Foreign		0		0		0
Domestic	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Total Equity	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Debt : Equity Ratio	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Form - 7						
Details of Project specific loans						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Sebari					
(Amount in lakhs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB	NABARD				
Currency ²	INR	INR				
Amount of Loan sanctioned	155.23	399.11				
Amount of Gross Loan drawn upto 31.06.06/COD ^{3,4,5,13,15}	0					
Interest Type ⁶	-					
Fixed Interest Rate, if applicable	-					
Base Rate, if Floating Interest ⁷	13.00%	6.50%				
Margin, if Floating Interest ⁸	No	No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	-					
If above is yes,specify caps/floor	-					
Moratorium Period ¹⁰	-					
Moratorium effective from	-					
Repayment Period ¹¹	-					
Repayment effective from	-					
Repayment Frequency ¹²	-					
Repayment Instalment ^{13,14}	-					
Base Exchange Rate ¹⁶	-					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given seperately in the same form.

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.

¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Form - 8						
Details of allocation of corporate loans to various projects						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Sebari					
(Amount in lacs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not Applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD 3,4,5,13,15						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

APPLICANT

Form - 9					
Statement of Additional Capitalisation after COD					
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Hydro Power Station		Sebari			
COD		Jan-10			
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off Date ¹	Amount Capitalised/ Proposed to be Capitalised (Amt in Cr)	Justification	Admitted Cost (Amt in Cr)
1	2	3	4	5	6
1	2010-11	Plant & Machinery	1.55		1.55
2	2011-12	Plant & Machinery	1.01		1.01
3	2012-13	Plant & Machinery	0.52		0.52
4	2013-14	Plant & Machinery	0.09		0.09
5	2014-15	Plant & Machinery	0.0001		0.00
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
Total			3.16		3.16
1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.					
2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)					
Note:					
1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the					
2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.					

Applicant

FORM - 10							
Financing of Additional Capitalisation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Sebari						
Date of Commercial Operation	Sep-10						
(Amount in Cr)							
Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	1.55	1.01	0.52	0.09	0.00013	-	-
Financing Details							
Loan-1	1.08	0.70	0.36	0.06	0.00009	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.46	0.30	0.15	0.03	0.00004	-	-
Internal Resources							
Others							
Total	1.55	1.01	0.52	0.09	0.00013	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Form -11							
Statement of Depreciation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Sebari						
							(Amount in Cr)
Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.40	0.02	0.47	0.47	0.47	0.47	0.47
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.40	0.02	0.47	0.47	0.47	0.47	0.47
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.40	0.02	0.47	0.47	0.47	0.47	0.47
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.40	0.02	0.47	0.47	0.47	0.47	0.47
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.40	0.41	0.88	1.35	1.82	2.29	5.99

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

FORM- 12				
Calculation of Depreciation Rate				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Sebari		
(Amount in lakhs)				
Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.10 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Land	Not Applicable		
2	Building			
3	and so on			
4				
5				
6				
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

Applicant

FORM- 13								
Calculation of Interest on Actual Loans1								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Power Station		Sebari						
(Amount in lakhs)								
Sl. no.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8	9
	Loan-1							
	Gross loan - Opening		155.22965	155.23	155.23	155.23	155.23	155.23
	Cumulative repayments of Loans upto previous year							
	Net loan - Opening							
	Increase / decrease due to FERV		0.00	0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to ACE							
	Total		155.23	155.23	155.23	155.23	155.23	155.23
	Repayment (s) of Loans during the year							
	Net loan - Closing		155.23	155.23	155.23	155.23	155.23	155.23
	Average Net Loan		155.23	155.23	155.23	155.23	155.23	155.23
	Rate of Interest on Loan		13%	10.50%	10.50%	10.50%	10.50%	10.50%
	Interest on loan		20.18	16.30	16.30	16.30	16.30	16.30
	Loan-2							
	Gross loan - Opening		399.11	399.11	399.11	399.11	399.11	399.11
	Cumulative repayments of Loans upto previous year							
	Net loan - Opening							
	Increase / decrease due to FERV		0.00	0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to ACE							
	Total		399.11	399.11	399.11	399.11	399.11	399.11
	Repayment (s) of Loans during the year							
	Net loan - Closing		399.11	399.11	399.11	399.11	399.11	399.11
	Average Net Loan		399.11	399.11	399.11	399.11	399.11	399.11
	Rate of Interest on Loan		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan		25.94	25.94	25.94	25.94	25.94	25.94
	Total Loan							
	Gross loan - Opening		554.34	554.34	554.34	554.34	554.34	554.34
	Cumulative repayments of Loans upto previous year		0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening		0.00	0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to FERV		0.00	0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to ACE		0.00	0.00	0.00	0.00	0.00	0.00
	Total		554.34	554.34	554.34	554.34	554.34	554.34
	Repayment (s) of Loans during the year		0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing		554.34	554.34	554.34	554.34	554.34	554.34
	Average Net Loan		554.34	554.34	554.34	554.34	554.34	554.34
	Interest on loan		46.12	42.24	42.24	42.24	42.24	42.24
	Weighted average Rate of Interest on Loans		8.32%	7.62%	7.62%	7.62%	7.62%	7.62%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Form-14				
Calculation of Advance Against Depreciation (AAD)				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Sebari		
Particulars				
1	2	3	4	5
1/10th of the Loan(s)	Not Applicable			
Repayment of the Loan(s) as considered for working out Interest on Loan				
Minimum of the Above				
Less: Depreciation during the year				
(A ¹)				
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan				
Less: Cumulative Depreciation				
(B ¹)				
Advance Against Depreciation (Minimum of A & B)				

¹If the amount is negative, it will be shown as zero.

Applicant

Form-15								
Calculation of Interest on Working Capital								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Sebari						
(Amount in Cr)								
Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.02	0.02	0.02	0.02	0.01	0.01	0.02
2	Maintenance Spares	0.09	0.10	0.11	0.11	0.11	0.11	0.11
3	Recievables	0.27	0.22	0.29	0.29	0.27	0.26	0.28
	Total Working Capital	0.39	0.34	0.42	0.42	0.39	0.38	0.41
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	0.05	0.04	0.05	0.05	0.05	0.05	0.05

Applicant

Form-16													
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.											
Name of the Hydro Power Station		Sebari											
Draw Down Schedule for Calculation of IDC & Financing Charges													
(Amount in Lakhs)													
Sl. No.	Draw Down	2009-10			2010-2011			2011-2012			2012-2013 to 2015 -16		
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans	NIL											
1.1	Foreign Loans												
1.1.1	Foreign Loan 1												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.2	Foreign Loan 2												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.3	Foreign Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.4	--												
	--												
	--												
1.1	Total Foreign Loans												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	Indian Loans												
1.2.1	Indian Loan 1												
	Draw down Amount	#		155.23	155.23		155.23	155.23		155.23	155.23		155.23
	IDC	##											
	Financing charges	20.18		20.18	20.18		20.18	20.18		20.18	20.18		20.18
1.2.2	Indian Loan 2												
	Draw down Amount	#		399.11	399.11		399.11	399.11		399.11	399.11		399.11
	IDC	##											
	Financing charges	25.94		25.94	25.94		25.94	25.94		25.94	25.94		25.94
1.2.3	Indian Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.2.4	--												
	--												
	--												
1.2	Total Indian Loans												
	Draw down Amount	#		554.34	554.34		554.34	554.34		554.34	554.34		554.34
	IDC	##											
	Financing charges	46.12		46.12	46.12		46.12	46.12		46.12	46.12		46.12
1	Total of Loans drawn												
	IDC												
	Financing charges												
2	Equity												
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
	Total equity deployed												

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

FORM – 17								
DETAILS OF OPERATION AND MAINTENANCE EXPENSES								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Sebari						
								(Amt. in Cr.)
S. No.	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.21	0.22	0.24	0.23	0.15	0.14	0.22
	LESS: Recovered , if any							
	Net Expenses							
<p>Notes:</p> <p>I. The process of allocation of corporate expenses to generating stations should be specified</p> <p>II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained</p> <p>III. The data should be based on audited balance sheets</p>								
(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

Shirkhinda		
Checklist of Forms and other information/ documents for tariff filing for Shirkhinda Hydro Power Generating Station		
Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓
Other Information/ Documents		
Sl. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencing Business, Memorandum of Association & Article of Association (for new station set up by a company making tariff application for the first time to CERC)	-
2	Stationwise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the station and for the relevant years.	Submitted with true-up petition
3	Copies of relevant loan agreements	Submitted with true-up petition
4	Copies of the approval of Competent Authority for the Capital cost and Financial package.	
5	Copies of the Equity participation agreements and necessary approval for the foreign equity	-
6	Copies of the BPSA/PPA with the beneficiaries, if any	-
7	Detailed note giving reasons of time and cost over run, if applicable.	-
8	Any other relevant information (if any, to be specified)	-

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1									
Summary of Tariff Proposal									
Name of the Company / Utility:			Bihar State Hydroelectrical Power Corporation Ltd.						
Name of the Hydro Power Station			Shirkhinda						
Region	-	State	Bihar	District	Rohtas				
(Rs. in Cr.)									
S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	10
1	Depreciation	FORM- 11	0.33	0.67	1.02	1.38	1.73	2.09	5.06
2	Interest on Loan	FORM- 13A	0.40	0.40	0.37	0.37	0.37	0.37	0.00
3	Return on Equity ¹		0.32	0.32	0.33	0.34	0.34	0.34	0.38
4	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
5	Interest on Working Capital	FORM- 15	0.04	0.04	0.04	0.04	0.03	0.03	0.04
6	O & M Expenses	FORM- 17	0.14	0.15	0.17	0.16	0.10	0.10	0.15
—			1.24	1.58	1.93	2.28	2.58	2.92	5.63

1 Details of calculations to be furnished.

Applicant

FORM-2			
Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.			
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station		Shirkhinda	
Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	2 X 0.35
2	Free power to home state	%	
3	Date of commercial operation		
—	U ni		Jan-10
—	U ni		Jan-10
—	U ni		NA
4	Type of Station		
—	a) Surface/underground		Surface
—	b) Purely ROR/ Pondage/Storage		Canal based
—	c) Peaking/non-peaking		Non-Peaking
—	d) No. of hours of peaking		NA
—	e) Overload capacity(MW) & period		NA
5	Type of excitation		
—	a) Rotaing exciters on generator		
—	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	5.35
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	5.29
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
—	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.

APPLICANT

FORM-3	
SALIENT FEATURES OF HYDROELECTRIC PROJECT	
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.
Name of Hydro Power station	Shirkhinda
1. Location	
State/Distt.	Bihar / Rohtas
River	
2. Diversion Tunnel	
Size, shape	
Length	
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	
Particle size to be removed(mm)	
7. Head Race Tunnel	
Size and type	13.520m (W), Trapezoidal
Length	30m
Design discharge(Cumecs)	31.4
8. Surge Shaft	
Type	
Diameter	
Height	
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	0.70 MW (2 X 0.35)
Peaking capacity during lean period (MW)	
Type of turbine	
Rated Head(M)	
Rated Discharge(Cumecs)	
11. Tail Race Tunnel	
Diameter, shape	Trapezoidal
Length	30m x 14.310m
Minimum tail water level	91.297
12. Switchyard	
Type of Switch gear	
No. of generator bays	1
No. of Bus coupler bays	
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4												
Details of Foreign loans												
(Details only in respect of loans applicable to the project under consideration)												
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.											
Name of Hydro Power station	Shirkhinda											
Exchange rate at CoD												
Exchange rate as on 31.03.												
(Amount in lakhs)												
Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency ¹	Not applicable											
At the date of Draw ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency ¹												
At the date of Draw ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency ¹ & so on												
At the date of Draw ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

FORM-5							
<u>Abstract of Admitted Capital Cost for the existing Project</u>							
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.						
Name of Hydro Power station	Shirkhinda						
							(Amt. in Cr.)
Capital cost admitted as on	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	7.41	7.41	7.87	7.87	7.87	7.87	8.80
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr) INR	<u>7.41</u>	<u>7.41</u>	<u>7.87</u>	<u>7.87</u>	<u>7.87</u>	<u>7.87</u>	<u>8.80</u>

APPLICANT

FORM-5A		
Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects		
Name of Utility/Company	Bihar State Hydroelectrical Power Corporation Ltd.	
Name of Hydro Power station	Shirkhinda	
New Projects	No	
Capital Cost Estimates (Rs. In lacs)		
Name of the Authority approving the project cost estimates:	-	
Date of approval of the Capital cost	-	
	Estimated Cost	Completed Cost
Price level of approved estimates	As of End of Qtr.	As on Scheduled COD of
Foreign Exchange rate considered for the capital cost estimates		
Capital Cost excluding IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs. Cr.)		
Capital cost excluding IDC & FC (Rs. Cr)		
IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Total Capital Cost Domestic Component (Rs. Cr.)	487	766
IDC & FC (Rs.Cr.)		
Rate of taxes & duties considered		
Schedule dates of Commissioning		
COD of Unit-I	Jun-06	Jan-10
COD of Unit-II		
COD of last Unit		
Note:		
1. Copy of approval letter should be enclosed.		
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.		
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.		
		Applicant

Form - 5B								
Break up of Capital cost (for hydro power generating station)								
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.						
Name of Hydro Power station		Shirkhinda						
(Amt. in Cr.)								
Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost		
1	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>		
1	Infrastructure Works							
1.1	Preliminary including Development	0.05	Break up provided in Annexure I		Reasons for variation has been submitted in the Petition			
1.2	Land	0.08						
1.3	Buildings	0.21						
1.4	Township							
1.5	Maintenance							
1.6	Tools & Plants	0.05						
1.7	Communication							
1.8	Environment & Ecology							
1.9	Losses on stock							
1.1	Receipt & Recoveries							
1.11	Total (Infrastructure works)	0.38						
2	Major Civil Works							
2.1	Dam, Intake & Desilting Chambers	1.14						
2.2	HRT, TRT, Surge Shaft & Pressure shafts							
2.3	Power Plant civil works							
2.4	Other civil works (Trash cleaning machine, Gantry crane, Irrigation vent, By pass gate)							
2.5	Total (Major Civil Works)							
3	Hydro Mechanical equipments	3.0164						
4	Plant & Equipment							
4.1	Initial spares of Plant & Equipment							
4.2	Total (Plant & Equipment)							
5	Taxes and Duties							
5.1	Custom Duty							
5.2	Other taxes & Duties							
5.3	Total Taxes & Duties							
6.0	Construction & Pre-commissioning expenses							
6.1	Erection, testing & commissioning							
6.2	Construction Insurance							
6.3	Site supervision							
6.4	Total (Const. & Pre-commissioning)							
7	Overheads							
7.1	Establishment	0.22						
7.2	Design & Engineering							
7.3	Audit & Accounts	0.04						
7.4	Contingency	0.13						
7.5	Rehabilitation & Resettlement							
7.6	Total (Overheads)	0.40						
8	Capital Cost without IDC & FC							
9	Financing charges (FC)							
10	Interest during construction (IDC)							
11	Capital Cost with IDC & FC	4.86	7.66			7.66		

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

Applicant

Form - 5C						
Break up of Capital cost for plant & equipment						
Name of Utility/Company		Bihar State Hydroelectrical Power Corporation Ltd.				
Name of Hydro Power station		Shirkhinda				
Sl. No.	Head of works	Original Cost as approved by	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories		Break up provided in Annexure I			
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment) (Rs in Cr)	3.02				

APPLICANT

Break-up of Construction/Supply/Service packages										
	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Shirkhinda						
				(Amt in Lakh)						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Lakh)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs.Lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/S HPP Energy PVT LTD	E/M			06.06.2005		Jan-10	357.45		766.25
2	Mother India Construction Pvt. Ltd.	Civil			27.06.2005			140.39		
3	Other	Other						34.37		

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

Form - 6						
Financial Package upto COD						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Shirkhinda					
Project Cost as on COD ¹	-					
Date of Commercial Operation of the Station ²	Jan-10					
(Amount in lakhs)						
	(Amount in lakhs)		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	347.16	Indian Rs.	347.16	Indian Rs.	766.25
Loan-II GOB	Indian Rs.	135.63	Indian Rs.	135.63	Indian Rs.	
Loan-III	Indian Rs.	0	Indian Rs.	0	Indian Rs.	
and so on						
Equity-						
Foreign		0		0		0
Domestic	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Total Equity	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0
Debt : Equity Ratio	Indian Rs.	0	Indian Rs.	0	Indian Rs.	0

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

Form - 7						
Details of Project specific loans						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Shirkhinda					
(Amount in lakhs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB	NABARD				
Currency ²	INR	INR				
Amount of Loan sanctioned	135.63	347.16				
Amount of Gross Loan drawn upto 31.06.06/COD ^{3,4,5,13,15}	0					
Interest Type ⁶	-					
Fixed Interest Rate, if applicable	-					
Base Rate, if Floating Interest ⁷	13.00%	6.50%				
Margin, if Floating Interest ⁸	No	No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	-					
If above is yes,specify caps/floor	-					
Moratorium Period ¹⁰	-					
Moratorium effective from	-					
Repayment Period ¹¹	-					
Repayment effective from	-					
Repayment Frequency ¹²	-					
Repayment Instalment ^{13,14}	-					
Base Exchange Rate ¹⁶	-					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03. ____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the

⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly,

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03. ____ for existing assets and as on COD for the
APPLICANT

Form - 8						
Details of allocation of corporate loans to various projects						
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.					
Name of the Hydro Power Station	Shirkhinda					
(Amount in lacs)						
Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	NA					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly,

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the

¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the

APPLICANT

Form - 9					
Statement of Additional Capitalisation after COD					
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Hydro Power Station		Shirkhinda			
COD		Jan-10			
Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off Date ¹	Amount Capitalised/ Proposed to be Capitalised (Amt in Cr)	Justification	Admitted Cost ¹ (Amt in Cr)
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.64		0.64
2	2011-12	Plant & Machinery	-		0.00
3	2012-13	Plant & Machinery	0.46		0.46
4	2013-14	Plant & Machinery	0.00		0.00
5	2014-15	Plant & Machinery	0.00		0.00
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
Total			1.11		1.11
1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.					
2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)					
Note:					
1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the					
2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.					

Applicant

FORM - 10							
Financing of Additional Capitalisation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Shirkhinda						
Date of Commercial Operation	Jan-10						
(Amount in Cr)							
Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.64	-	0.46	0.0006	0.0034	0.0034	-
Financing Details							
Loan-1	0.45	-	0.32	0.0004	0.0024	0.0024	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.19	-	0.14	0.0002	0.0010	0.0010	-
Internal Resources							
Others							
Total	0.64	-	0.46	0.0006	0.0034	0.0034	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Form -11							
Statement of Depreciation							
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station	Shirkhinda						
							(Amount in Cr)
Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.33	0.33	0.35	0.35	0.35	0.35	0.40
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.33	0.33	0.35	0.35	0.35	0.35	0.40
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.33	0.33	0.35	0.35	0.35	0.35	0.40
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.33	0.33	0.35	0.35	0.35	0.35	0.40
Cumulative Depreciation & Advance against Depreciation recovered upto the year	0.33	0.67	1.02	1.38	1.73	2.09	5.06

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

FORM- 12				
Calculation of Depreciation Rate				
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.		
Name of the Hydro Power Station		Shirkhinda		
(Amount in lakhs)				
Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.10 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Land	Not Applicable		
2	Building			
3	and so on			
4				
5				
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

Applicant

FORM- 13							
Calculation of Interest on Actual Loans ¹							
Name of the Utility / Company				Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Power Station				Shirkhinda			
(Amount in lakhs)							
Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1						
	Gross loan - Opening	135.63	135.63	135.63	135.63	135.63	135.63
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	135.63	135.63	135.63	135.63	135.63	135.63
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	135.63	135.63	135.63	135.63	135.63	135.63
	Repayment (s) of Loans during the year						
	Net loan - Closing	135.63	135.63	135.63	135.63	135.63	135.63
	Average Net Loan	135.63	135.63	135.63	135.63	135.63	135.63
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	17.63	17.63	14.24	14.24	14.24	14.24
	Loan-2						
	Gross loan - Opening	347.16	347.16	347.16	347.16	347.16	347.16
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	347.16	347.16	347.16	347.16	347.16	347.16
	Increase / decrease due to FERV						
	Increase / decrease due to ACE						
	Total	347.16	347.16	347.16	347.16	347.16	347.16
	Repayment (s) of Loans during the year						
	Net loan - Closing	347.16	347.16	347.16	347.16	347.16	347.16
	Average Net Loan	347.16	347.16	347.16	347.16	347.16	347.16
	Rate of Interest on Loan	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan	22.57	22.57	22.57	22.57	22.57	22.57
	Total Loan						
	Gross loan - Opening	482.79	482.79	482.79	482.79	482.79	482.79
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	482.79	482.79	482.79	482.79	482.79	482.79
	Increase / decrease due to FERV	0.00	0.00	0.00	0.00	0.00	0.00
	Increase / decrease due to ACE	0.00	0.00	0.00	0.00	0.00	0.00
	Total	482.79	482.79	482.79	482.79	482.79	482.79
	Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	482.79	482.79	482.79	482.79	482.79	482.79
	Average Net Loan	482.79	482.79	482.79	482.79	482.79	482.79
	Interest on loan	40.20	40.20	36.81	36.81	36.81	36.81
	Weighted average Rate of Interest on Loans	8.33%	8.33%	7.62%	7.62%	7.62%	7.62%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Form-14				
Calculation of Advance Against Depreciation (AAD)				
Name of the Utility / Company	Bihar State Hydroelectric Power Corporation Ltd.			
Name of the Hydro Power Station	Shirkhinda			
Particulars				
1	2	3	4	5
1/10th of the Loan(s)	NA			
Repayment of the Loan(s) as considered for working out Interest on Loan				
Minimum of the Above				
Less: Depreciation during the year				
(A ¹)				
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan				
Less: Cumulative Depreciation				
(B ¹)				
Advance Against Depreciation (Minimum of A & B)				

¹If the amount is negative, it will be shown as zero.

Applicant

Form-15								
Calculation of Interest on Working Capital								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Shirkhinda						
(Amount in Cr)								
Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5				6
1	O & M expenses	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2	Maintenance Spares	0.08	0.08	0.09	0.09	0.09	0.09	0.10
3	Recievables	0.23	0.23	0.22	0.21	0.20	0.19	0.23
	Total Working Capital	0.33	0.32	0.32	0.32	0.29	0.29	0.34
	Rate of Interest	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%
	Interest on Working Capital	0.04	0.04	0.04	0.04	0.03	0.03	0.04

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Form-16													
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.											
Name of the Hydro Power Station		Shirkhinda											
Draw Down Schedule for Calculation of IDC & Financing Charges													
(Amount in Lakhs)													
Sl. No.	Draw Down	2009-10			2010-2011			2011-2012			2012-2013 to 2015-16		
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans	NIL											
1.1	Foreign Loans												
1.1.1	Foreign Loan 1												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.2	Foreign Loan 2												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.3	Foreign Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.1.4	--												
	--												
	--												
1.1	Total Foreign Loans												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	Indian Loans												
1.2.1	Indian Loan 1												
	Draw down Amount	#		135.63	#		135.63	135.63		135.63	135.63		135.63
	IDC												
	Financing charges	17.63		17.63	17.63		17.63	17.63		17.63	17.63		17.63
1.2.2	Indian Loan 2												
	Draw down Amount	#		347.16	#		347.16	347.16		347.16	347.16		347.16
	IDC												
	Financing charges	22.57		22.57	22.57		22.57	22.57		22.57	22.57		22.57
1.2.3	Indian Loan 3												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	Total Indian Loans												
	Draw down Amount	#		482.79	#		482.79	482.79		482.79	482.79		482.79
	IDC												
	Financing charges	40.20		40.20	40.20		40.20	40.20		40.20	40.20		40.20
1	Total of Loans drawn												
	IDC												
2	Equity												
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
	Total equity deployed												

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

FORM – 17								
DETAILS OF OPERATION AND MAINTENANCE EXPENSES								
Name of the Utility / Company		Bihar State Hydroelectric Power Corporation Ltd.						
Name of the Hydro Power Station		Shirkhinda						
S. No.	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8) (Amt in Cr)	0.14	0.15	0.17	0.16	0.10	0.10	0.15
	LESS: Recovered , if any							
	Net Expenses							
<p>Notes:</p> <p>I. The process of allocation of corporate expenses to generating stations should be specified</p> <p>II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained</p> <p>III. The data should be based on audited balance sheets</p>								
(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

APPLICANT

Triveni

Checklist of Forms and other information/ documents for tariff filing for Triveni Hydro Power Generating Station

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

FORM- 1

Summary of Tariff Proposal

Name of the Company / Utility: _____

Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : _____

Triveni SHP

Region Bihat Patna

(F

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	1.46	2.21	2.95	3.69	4.43	5.18	10.63
#	Interest on Loan	FORM- 13A	0.77	0.85	0.69	0.69	0.69	0.69	0.00
#	Return on Equity ¹		0.00	0.01	0.01	0.01	0.01	0.01	0.07
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.10	0.09	0.09	0.09	0.08	0.07	0.09
#	O & M Expenses	FORM- 17	0.62	0.66	0.72	0.69	0.45	0.41	0.66
			2.95	3.82	4.45	5.16	5.65	6.36	11.45

1 Details of calculations to be furnished.

Applicant

FORM-2**Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.****NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.****NAME OF Hydro POWER STATION : Triveni SHP**

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	2X1.5
2	Free power to home state	%	NA
3	Date of commercial operation		
	Unit-1		06.02.2009
	Unit-2		06.02.2009
	Unit-3		
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		NA
5	Type of excitation		
	a) Rotaing exciters on generator		
	b) Static excitation		Static
6	Design Energy (Annual) ¹	Gwh	14.94
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	14.85
10	Primary Energy Rate	paise/Kwh	
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.**APPLICANT**

FORM-3

SALIENT FEATURES OF HYDROELECTRIC PROJECT

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Triveni SHP

1. Location	
State/Distt.	Bihar/West Champaran
River	Gandak
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	Trapezoidal - BW .25M, Fsd 3.438M
Length	235 m
Design discharge(Cumecs)	70.85
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	
Installed capacity (No of units x MW)	2X1.5
Peaking capacity during lean period (MW)	NA
Type of turbine	Turbine type Kaplan
Rated Head(M)	4.49
Rated Discharge(Cumecs)	70.85
11. Tail Race Tunnel	
Diameter, shape	
Length	
Minimum tail water level	
12. Switchyard	
Type of Switch gear	
No. of generator bays	2
No. of Bus coupler bays	
No. of line bays	1

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company _____ Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station _____ Triveni SHP

(Amount in lakhs)

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency²												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency³ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest	—	—	—	—	—	—	—	—	—	—	—	—
At the end of Financial year	—	—	—	—	—	—	—	—	—	—	—	—

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

Abstract of Admitted Capital Cost for the existing Project

Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station : Triveni SHP

(Amt in Cr)

<u>Capital cost admitted as on</u>	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<u>Domestic Component (Rs. Cr.)</u>	16.49	16.49	16.49	16.50	16.50	16.50	17.90
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<u>Total Capital cost to be admitted (Rs. Cr) 1400</u>	<u>16.49</u>	<u>16.49</u>	<u>16.49</u>	<u>16.50</u>	<u>16.50</u>	<u>16.50</u>	<u>17.90</u>

APPLICANT

FORM-5A				
Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects				
Name of the Utility / Company : Bihar State Hydroelectrical Power Corporation Ltd. Name of the Hydro Power Station : Triveni SHP				
New Projects <u>Yes</u> <u>Under construction</u>				
Name of the Authority approving the project	Bihar govt.			
Date of approval of the Capital cost				
	Estimated Cost	Completed Cost		
Price level of approved estimates	Not Applicable			
Foreign Exchange rate considered for the				
Capital Cost excluding IDC & FC				
Foreign Component, if any (In Million US \$				
Domestic Component (Rs. Cr.)				
Capital cost excluding IDC & FC (Rs. Cr)				
IDC & FC				
Foreign Component, if any (In Million US \$				
Domestic Component (Rs. Cr.)				
IDC & FC (Rs.Cr.)				
Rate of taxes & duties considered				
Schedule dates of Commissioning				
COD of Unit-I				
COD of Unit-II				

COD of last Unit				
Note: 1. Copy of approval letter should be enclosed. 2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable. 3. Details of IDC & Financing Charges are to be furnished as per FORM-16.				

APPLICANT

FORM-5B

Break up of Capital cost (for hydro power generating station)

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Triveni SHP

(Rs. in Lakhs)

Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per BERC order dt. 15.12.21
1	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Infrastructure Works					
1.1	Preliminary including Development					
1.2	Land	40.67	51.95			
1.3	Buildings					
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants					
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	40.67	51.95			
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers					
2.2	HRT, TRT, Surge Shaft & Pressure shafts					
2.3	Power Plant civil works					
2.4	Other civil works (to be specified)	54.34	1985.03			
2.5	Total (Major Civil Works)	54.34	1985.03			
3	Hydro Mechanical equipments					
4	Plant & Equipment					
4.1	Initial spares of Plant & Equipment	1651.7	320.88			
4.2	Total (Plant & Equipment)	1651.7	320.88			
5	Taxes and Duties					
5.1	Custom Duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)					
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC	1746.71	2357.86			1833

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectrical Power Corporation Ltd.

NAME OF Hydro POWER STATION: Triveni SHP

(Rs. in lakh)

Sl. No.	Head of works	Original Cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories					
1.1	Generator package	1651.7				
1.2	Turbine package					
1.3	Unit control Board					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer	95.01				
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane		2357.86			
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.1	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)	1746.71	2357.86			

APPLICANT

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Triveni						
Sl.No.	Name/No. of Constructi on / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. In Lakh)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs. In Lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	M/s Pareek Power	Civil work	DCB	2	27-06-2001	10-09-2005		1651.71		
	M/s Pareek Power	E/M	DCB	2	27-06-2001	10-09-2005				

1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.

APPLICANT

FORM- 6**Financial Package upto COD****Name of the Utility / Company**

Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station

Triveni

Project Cost as on COD¹

NA

Date of Commercial Operation of the Station²

(Amount in lakhs)

	Financial Package as Approved		<u>Financial Package as on COD</u>		As Admitted on COD	
	Currency and Amount³		Currency and Amount³		Currency and Amount³	
1	2	3	4	5	6	7
Loan-I NABARD	Indian Rs.	607.58	Indian Rs.	607.58	Indian Rs.	607.58
Loan-II GOB	Indian Rs.	528.07	Indian Rs.	484.96	Indian Rs.	484.96
Common pool/Internal accrual	Indian Rs.	224.7	Indian Rs.	633.72	Indian Rs.	633.72
Subsidy (MNES)	Indian Rs.	150	Indian Rs.	200	Indian Rs.	200
Equity-		Nil				
Foreign		Nil				
Domestic		Nil	Indian Rs.	62.61	Indian Rs.	62.61
Total Equity		Nil				
Debt : Equity Ratio		1135.65				

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

FORM- 7**Details of Project Specific Loans****Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.****Name of the Hydro Power Station: Triveni**

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	NABARD	GOB				
Currency ²	Indian Rs.	Indian Rs.				
Amount of Loan sanctioned	607.58	528.07				
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	607.58	371.92				
Interest Type ⁶	Fixed	Fixed				
Fixed Interest Rate, if applicable	6%	13%				
Base Rate, if Floating Interest ⁷	Nil	Nil				
Margin, if Floating Interest ⁸	No	No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	No	No				
If above is yes,specify caps/floor	Nil	Nil				
Moratorium Period ¹⁰	2 year	1 year				
Moratorium effective from	15-12-2003	15-12-2003				
Repayment Period ¹¹	5 year	10 year				
Repayment effective from	01-04-2009	15-12-2004				
Repayment Frequency ¹²	Annual	Annual				
Repayment Instalment ^{13,14}	121.516	52.807				
Base Exchange Rate ¹⁶	Nil	Nil				

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.**APPLICANT**

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	NIL					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen,Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given seperately in the same form.⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.¹⁵ In case of Foreign loan,date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD**Name of the Utility / Company : Bihar State Hydroelectric Power Corporation Ltd.****Name of Hydro Power Station: Triveni****COD :****(Amt in Cr)**

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/ Beyond Cut off	Amount Capitalised/ Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.30		0.30
2	2011-12	Plant & Machinery	0.01		0.01
3	2012-13	Plant & Machinery	0.57		0.57
4	2013-14	Plant & Machinery	0.11		0.11
5	2014-15	Plant & Machinery	0.0001		0.0001
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		1.00		1.00

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased alongwith any equipment , then the cost of such spares should be indicated separately,e.g. Rotor- 50 Crs. Initial spares - 5 Crs.etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

Date of Commercial Operation: Mar-08

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Amount capitalised in Work/Equipment	0.30	0.01	0.57	0.11	0.00	-	-
Financing Details : on normativ basis							
Loan-1	0.21	0.01	0.40	0.08	0.00	-	-
Loan-2							
Loan-3 and so on							
Total Loan ²							
Equity	0.09	0.00	0.17	0.03	0.00	-	-
Internal Resources							
Others							
Total	0.30	0.01	0.57	0.11	0.00	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	0.74	0.74	0.74	0.74	0.74	0.74	0.81
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	0.74	0.74	0.74	0.74	0.74	0.74	0.81
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	0.74	0.74	0.74	0.74	0.74	0.74	0.81
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	0.74	0.74	0.74	0.74	0.74	0.74	0.81
Cumulative Depreciation & Advance against Depreciation recovered upto the year	1.46	2.21	2.95	3.69	4.43	5.18	10.63

¹ Depreciation recovered in Tariff upto _____ to be furnished with yaerwise details in the same form seperately with supporting details..

APPLICANT

Calculation of Depreciation Rate

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.____ or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	NA			
2				
3				
4				
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	NABARD	NABARD	NABARD	NABARD	NABARD	NABARD
	Gross loan - Opening	607.58	607.58	607.58	607.58	607.58	607.58
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	607.58	607.58	607.58	607.58	607.58	607.58
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	607.58	607.58	607.58	607.58	607.58	607.58
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing						
	Average Net Loan	607.58	607.58	607.58	607.58	607.58	607.58
	Rate of Interest on Loan	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
	Interest on loan	14.25	21.63	17.79	17.79	17.79	17.79
	Loan-2	GOB	GOB	GOB	GOB	GOB	GOB
	Gross loan - Opening	484.96	484.96	484.96	484.96	484.96	484.96
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	484.96	484.96	484.96	484.96	484.96	484.96
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	484.96	484.96	484.96	484.96	484.96	484.96
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing	484.96	484.96	484.96	484.96	484.96	484.96
	Average Net Loan	NIL	NIL	NIL	NIL	NIL	NIL
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	63.04	63.04	50.92	50.92	50.92	50.92
	Total Loan						
	Gross loan - Opening	1092.54	1092.54	1092.54	1092.54	1092.54	1092.54
	Cumulative repayments of Loans upto previous year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Opening	1092.54	1092.54	1092.54	1092.54	1092.54	1092.54
	Increase / decrease due to FERV	NIL	NIL	NIL	NIL	NIL	NIL
	Increase / decrease due to ACE	NIL	NIL	NIL	NIL	NIL	NIL
	Total	1092.54	1092.54	1092.54	1092.54	1092.54	1092.54
	Repayment (s) of Loans during the year	NIL	NIL	NIL	NIL	NIL	NIL
	Net loan - Closing	NIL	NIL	NIL	NIL	NIL	NIL
	Average Net Loan	1092.54	1092.54	1092.54	1092.54	1092.54	1092.54
	Interest on loan	77.2948	84.6748	68.7108	68.7108	68.7108	68.7108
	Weighted average Rate of Interest on Loans	9.75%	9.75%	6.29%	6.29%	6.29%	6.29%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Original currency is also to be furnished separately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station: Triveni

(Amount in lakhs)					
Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	NA				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

Calculation of Interest on Working Capital

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.05	0.06	0.06	0.06	0.04	0.03	0.06
2	Maintenance Spares	0.19	0.19	0.19	0.19	0.19	0.19	0.20
3	Recievables	0.52	0.50	0.46	0.44	0.39	0.37	0.46
	Total Working Capital	0.75	0.74	0.71	0.68	0.61	0.59	0.71
	Rate of Interest	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%	12.75%
	Interest on Working Capital	0.10	0.09	0.09	0.09	0.08	0.07	0.09

Applicant

Name of the Utility / Company: Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station: Triveni

Draw Down Schedule for Calculation of IDC & Financing Charges

(Amount in Lakhs)

Sl. No.	Draw Down Particulars	2009-10			2010-11			2011-12			2012-13			2013-14 to 2015-16		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans															
1.1	Foreign Loans															
1.1.1	Foreign Loan 1															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.2	Foreign Loan 2															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.3	Foreign Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.1.4	--															
	--															
	--															
1.1	Total Foreign Loans															
	Draw down Amount															
	IDC															
	Financing charges															
1.2	Indian Loans															
1.2.1	Indian Loan 1															
	Draw down Amount	#		607.58	#		607.58	#		607.58	607.58		607.58	607.58		607.58
	IDC															
	Financing charges	14.25		14.25	14.25		14.25	14.25		14.25	14.25		14.25	14.25		14.25
1.2.2	Indian Loan 2															
	Draw down Amount	#		484.96	#		484.96	#		484.96	484.96		484.96	484.96		484.96
	IDC															
	Financing charges	63.04		63.0448	#		63.0448	#		63.0448	63.0448		63.0448	63.0448		63.0448
1.2.3	Indian Loan 3															
	Draw down Amount															
	IDC															
	Financing charges															
1.2.4	--															
	--															
	--															
1.2	Total Indian Loans															
	Draw down Amount	#		1092.54	#		1092.54	#		1092.54	1092.54		1092.54	1092.54		1092.54
	IDC															
	Financing charges	#		77.2948	#		77.2948	#		77.2948	77.2948		77.2948	77.2948		77.2948
1	Total of Loans drawn															
	IDC															
	Financing charges															
2	Equity															
2.1	Foreign equity drawn															
2.2	Indian equity drawn	--	--		--	--		--	--							
	Total equity deployed			233.48			358.75			711.75		711.75				711.75

Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.

APPLICANT

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility : Bihar State Hydroelectric Power Corporation Ltd.

Name of the Power Station : Triveni

(Amt in Cr)

	ITEMS	2010-	2011-	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	0.62	0.66	0.72	0.69	0.45	0.41	0.66
	LESS: Recovered , if any							
	Net Expenses							

Notes:

I. The process of allocation of corporate expenses to generating stations should be specified

II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained

III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

(APPLICANT)

VALMIKINAGARA**Checklist of Forms and other information/ documents for tariff filing for Bihar State Hydro Electric Power Stations**

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM-1	Summary of Tariff Proposal	✓
FORM-2	Details of type of hydro station, Capacity Index, Primary energy rate etc.	✓
FORM-3	Salient Features of hydro electric project	✓
FORM-4	Details of Foreign loans	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Project	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projects	✓
FORM-5B	Break up of capital Cost	✓
FORM-5C	Break up of Project Cost for Plant and Equipment	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	✓
FORM-13	Calculation of interest on actual loan (s)	✓
FORM-14	Calculation of Advance Against Depreciation (AAD)	✓
FORM-15	Calculation of Interest on Working Capital	✓
FORM- 16	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM-17	Details of Operation & Maintenance Expenses	✓

Note: Electronic copy in the form of CD/Floppy disc shall also be furnished.

Summary of Tariff Proposal

Name of the Company / Utility: _____

Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station : _____

Eastern Gandak Canal HEP, Valmikinagar

Region

State

Bihar

District

West Champaran

(Rs. in Cr)

S.No.	Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2		3	4	5	6	7	8	9
#	Depreciation	FORM- 11	5.17	7.76	10.41	13.06	15.71	18.36	34.35
#	Interest on Loan	FORM- 13 A	3.83	3.83	3.09	3.09	3.09	3.09	0.00
#	Return on Equity ¹	—	2.41	2.42	2.44	2.47	2.47	2.47	2.47
#	Advance against Depreciation	FORM- 14	0	0	0	0	0	0	0
#	Interest on Working Capital	FORM- 15	0.37	0.37	0.38	0.37	0.33	0.32	0.37
#	O & M Expenses	FORM- 17	3.09	3.31	3.59	3.43	2.24	2.05	3.32
			14.88	17.70	19.92	22.43	23.85	26.30	40.52

1 Details of calculations to be furnished.

Applicant

FORM-2**Details of COD, Type of hydro station, Capacity Index, Primary energy rate etc.****NAME OF Utility / COMPANY:** Bihar State Hydroelectric Power Corporation Ltd.**NAME OF****Hydro POWER STATION :** Eastern Gandak Canal HEP, Valmikinagar

Sl. No.	Description		As per CERC norms for tariff period 2004-05 to 2008-09
1	Installed Capacity	MW	15 (3X5 MW)
2	Free power to home state	%	
3	Date of commercial operation		
	Unit-1		13.9.1995
	Unit-2		28.6.1996
	Unit-3		12.11.1997
	Unit-4		
4	Type of Station		
	a) Surface/underground		Surface
	b) Purely ROR/ Pondage/Storage		Purely ROR
	c) Peaking/non-peaking		Non peaking
	d) No. of hours of peaking		NA
	e) Overload capacity(MW) & period		
5	Type of excitation		
	a) Rotaing exciters on generator		
	b) Static excitation		Static excitation
6	Design Energy (Annual) ¹	Gwh	90
7	Auxiliary Consumption	%	0.5
8	Transformation losses	%	0.5
9	Saleable Primary Energy	Gwh	
10	Primary Energy Rate	paaise/Kwh	89.1
11	Primary Energy Charge	Rs. in crore	
12	Capacity Index		
	Normative value		

¹ Monthwise Design energy figures to be given separately with the petition.**Applicant**

Form -3

SALIENT FEATURES OF HYDROELECTRIC PROJECT**NAME OF Utility / COMPANY:** Bihar State Hydroelectric Power Corporation Ltd.**NAME OF Hydro POWER STATION:** Eastern Gandak Canal HEP, Valmikinagar

1. Location	
State/Distt.	Bihar/West Champaran
River	Gandak
2. Diversion Tunnel	
Size, shape	NA
Length	NA
3. Dam	
Type	NA
Maximum dam height	NA
4. Spillway	
Type	NA
Crest level of spillway	NA
5. Reservoir	
Full Reservoir Level (FRL)	NA
Minimum Draw Down Level (MDDL)	NA
Live storage (MCM)	NA
6. Desilting Arrangement	
Type	NA
Number and Size	NA
Particle size to be removed(mm)	NA
7. Head Race Tunnel	
Size and type	BW 42.97 m, FSD 4.87 m Trapezoidal
Length	1.06 km
Design discharge(Cumecs)	377.80 cumecs
8. Surge Shaft	
Type	NA
Diameter	NA
Height	NA
9. Penstock/Pressure shafts	
Type	NA
Diameter & Length	NA
10. Power House	
Type	Surface
Installed capacity (No of units x MW)	3 X 5 MW
Peaking capacity during lean period (MW)	NA
Type of turbine	Bulb type Kaplan Turbine
Rated Head(M)	5.30 m
Rated Discharge(Cumecs)	300 cumecs
11. Tail Race Tunnel	
Diameter, shape	BW 100 m, FSD 3.20m Trapezoidal
Length	32.30 m
Minimum tail water level	
12. Switchyard	
Type of Switch gear	Outdoor
No. of generator bays	2
No. of Bus coupler bays	1
No. of line bays	2

Note: Specify limitations on generation, if any, during specific time period on water use due to irrigation, drinking water, industrial, environmental considerations etc.

APPLICANT

FORM- 4

Details of Foreign loans

(Details only in respect of loans applicable to the project under consideration)

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.

Name of the Hydro Power Station Eastern Gandak Canal HEP, Valmikinagar

Exchange rate at COD

Exchange rate as on 31.03.20 NA

Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
1	2	3	4	5	6	7	8	9	10	11	12	13
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
Currency1¹	Not applicable											
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency2¹												
At the date of Drawl ²												
Scheduled repayment date of principal												
Scheduled payment date of interest												
At the end of Financial year												
Currency3¹ & so on												
At the date of Drawl ²												
Scheduled replacement date of principal												
Scheduled payment date of interest												
At the end of Financial year												

1 Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

2 In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.

Applicant

Abstract of Admitted Capital Cost for the existing Project**Name of the Utility / Company :** Bihar State Hydroelectric Power Corporation Ltd.**Name of the Hydro Power Station :** Eastern Gandak Canal HEP, Valmikinagar**(Amt in Cr)**

Capital cost admitted as on	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
(Give reference to the order of the relevant BERC / relevant authority along with application No. & Date)							
Foreign Component, if any (In Million US \$ or the relevant Currency)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Component (Rs. Cr.)	57.56	57.56	58.77	58.82	58.88	58.88	58.91
Foreign Exchange rate considered for the admitted cost	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total Capital cost to be admitted (Rs. Cr)	57.56	57.56	58.77	58.82	58.88	58.88	58.91

APPLICANT

Abstract of Capital Cost Estimates and Schedule dates of Commissioning for the New projectsName of **Utility / Company** : **Bihar State Hydroelectric Power Corporation Ltd.**Name of the **Hydro Power Station** : **Eastern Gandak Canal HEP, Valmikinagar****New Projects -****Capital Cost Estimates**

Name of the Authority approving the project cost estimates:

Date of approval of the Capital cost estimates:

Estimated Cost**Completed Cost**

Price level of approved estimates

As of End of Qtr. Of the year

As on Scheduled COD of the Station

Foreign Exchange rate considered for the capital cost estimates

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$ or the relevant Currency)

Domestic Component (Rs. Cr.)

Capital cost excluding IDC & FC (Rs. Cr)**IDC & FC**

Foreign Component, if any (In Million US \$ or the relevant Currency)

Domestic Component (Rs. Cr.)

IDC & FC (Rs.Cr.)

Rate of taxes & duties considered

Schedule dates of Commissioning

COD of Unit-I

COD of Unit-II

COD of last Unit

Not Applicable

Note:

1. Copy of approval letter should be enclosed.
2. Details of capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.

Applicant

FORM - 5B

Break up of Capital cost (for hydro power generating station)

NAME OF Utility / COMPANY: Bihar State Hydroelectric Power Corporation Ltd.

NAME OF Hydro POWER STATION: Eastern Gandak Canal HEP, Valmikinagar

(Amt. in Lakhs)

Sl. No.	Head of works	Original cost as approved by Authority	Cost on COD	Variation	Reasons for variation	Admitted cost as per BERC order dt. 15.12.21
1	2	3	4	5	6	7
1	Infrastructure Works					
1.1	Preliminary including Development					
1.2	Land		58.08	-58.08		
1.3	Buildings	34.27	91.59	-57.32		
1.4	Township					
1.5	Maintenance					
1.6	Tools & Plants	59.73	1.03	58.7		
1.7	Communication					
1.8	Environment & Ecology					
1.9	Losses on stock					
1.1	Receipt & Recoveries					
1.11	Total (Infrastructure works)	94	150.7	-56.7		
2	Major Civil Works					
2.1	Dam, Intake & Desilting Chambers X and head regulator					
2.2	HRT, TRT, Surge Shaft & Pressure shafts/Power channel and Tail race channel			0		
2.3	Power Plant civil works			0		
2.4	Other civil works (to be specified) Desilting of power channel, Forebay	1754.82	1916.77	-161.95	The preliminary expenses, development expenditure and advance could not be adjusted. As such this variation has been soon.	
2.5	Total (Major Civil Works)	1754.82	1916.77	-161.95		
3	Hydro Mechanical equipments	346.00	1165.73	-819.73		
4	Plant & Equipment	3086.11	3404.73	-318.62		
4.1	Initial spares of Plant & Equipment					
4.2	Total (Plant & Equipment)					
5	Taxes and Duties					
5.1	Custom Duty/Excise duty					
5.2	Other taxes & Duties					
5.3	Total Taxes & Duties					
6.0	Construction & Pre-commissioning expenses					
6.1	Erection, testing & commissioning					
6.2	Construction Insurance					
6.3	Site supervision					
6.4	Total (Const. & Pre-commissioning)					
7	Overheads					
7.1	Establishment					
7.2	Design & Engineering					
7.3	Audit & Accounts					
7.4	Contingency					
7.5	Rehabilitation & Resettlement					
7.6	Total (Overheads)	1665.07	1260.76	-404.31		
8	Capital Cost without IDC & FC					
9	Financing charges (FC)					
10	Interest during construction (IDC)					
11	Capital Cost with IDC & FC	6600.00	6732.96	132.96		5728

Note:

1. In case of time and cost over-run of the project, a detailed note giving reasons of such time and cost over run should be submitted, duly bringing out the agency responsible and whether such time and cost over run was beyond the control of the generating company.

APPLICANT

FORM- 5C

Break up of Capital Cost for Plant & Equipment

NAME OF Utility / COMPANY: Bihar State Hydroelectric Power Corporation Ltd.

NAME OF Hydro POWER STATION: Eastern Gandak Canal HEP, Valmikinagar

(Rs. in lakh)

Sl. No.	Head of works	Original Cost as approved	Cost on COD	Variation	Reasons for variation	Admitted cost
1	2	3	4	5	6	7
1	Generator, turbine & Accessories	3086.11	3404.73	318.62		
1.1	Generator package					
1.2	Turbine package					
1.3	Unit control Board (switch board panels)					
1.4	C&I package					
1.5	Bus Duct of GT connection					
1.6	Total (Generator, turbine & Accessories)					
2	Auxiliary Electrical Equipment					
2.1	Step up transformer					
2.2	Unit Auxiliary Transformer					
2.3	Local supply transformer					
2.4	Station transformer					
2.5	SCADA					
2.6	Switchgear, Batteries, DC dist. Board					
2.7	Telecommunication equipment					
2.8	Illumination of Dam, PH and Switchyard					
2.9	Cables & cable facilities, grounding/transmission line					
2.1	Diesel generating sets					
2.11	Total (Auxiliary Elect. Equipment)					
3.0	Auxiliary equipment & services for power station					
3.1	EOT crane					
3.2	Other cranes					
3.3	Electric lifts & elevators					
3.4	Cooling water system					
3.5	Drainage & dewatering system					
3.6	Fire fighting equipment					
3.7	Air conditioning, ventilation and heating					
3.8	Water supply system					
3.9	Oil handling equipment					
3.10	Workshop machines & equipment					
3.11	Total (Auxiliary equipt. & services for PS)					
4	Switchyard package					
5	Initial spares for all above equipments					
6	Total (Plant & Equipment)	3086.11	3404.73	318.62		

Applicant

FORM-5D

Break-up of Construction/Supply/Service packages

	Name of Utility			Bihar State Hydroelectric Power Corporation Ltd.						
	Name of Hydro Power Station			Eastern Gandak Canal HEP, Valmikinagar						
Sl.No.	Name/No. of Construction / Supply / Service Package	Scope of works (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Depatmentally/ Deposit Work	No. of bids received	Date of award	Date of Start of work	Date of Completion of Work	Value of Award ¹ in (Rs. Cr.)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier(Rs.Cr.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NIL										
<p>1 If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say _____.</p> <p style="text-align: center;">APPLICANT</p>										

FORM- 6**Financial Package upto COD**

Name of the Utility / Company Bihar State Hydroelectric Power Corporation Ltd.
Name of the Hydro Power Station Eastern Gandak Canal HEP, Valmikinagar
Project Cost as on COD¹ 6600 Lakh
Date of Commercial Operation of the Station² 12.11.97

(Amount in lakhs)

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
1	2	3	4	5	6	7
Loan-I PFC	Indian Rs.	230	Indian Rs.	123.26	Indian Rs.	123.26
Loan-II GOB	Indian Rs.	3746	Indian Rs.	2873.48	Indian Rs.	2873.48
Common Pool/Internal accrual						
Unpaid IDC;IFC	Indian Rs.	1334.22	Indian Rs.	1546.23	Indian Rs.	1546.23
Equity-						
Foreign						
Domestic	Indian Rs.	1389.78	Indian Rs.	2190	Indian Rs.	2190
Total Equity	Indian Rs.	1389.78	Indian Rs.	2190	Indian Rs.	2190
Debt : Equity Ratio		6700		6732.97		6732.97

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-

2 Date of Commercial Operation means Commercial Operation of the last unit

3 For example : US \$, 200M etc.etc

APPLICANT

FORM- 7**Details of Project Specific Loans****Name of the Utility / Company:** Bihar State Hydroelectrical Power Corporation Ltd.**Name of the Hydro Power Station:** Eastern Gandak Canal HEP, Valmikinagar

(Amount in lakhs)

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan ¹	GoB					
Currency ²	Indian Rs.					
Amount of Loan sanctioned	2873.48					
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}	2873.48					
Interest Type ⁶	Fixed					
Fixed Interest Rate, if applicable	13.00%					
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰	1 year					
Moratorium effective from	12-11-1997					
Repayment Period ¹¹	10 year					
Repayment effective from	15.12.1997					
Repayment Frequency ¹²	Annual					
Repayment Instalment ^{13,14}	797.52					
Base Exchange Rate ¹⁶	Nil					

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given separately in the same form.⁵ If the Tariff in the petition is claimed separately for various units, details in the Form are to be given separately for all the units in the same form.⁶ Interest type means whether the interest is fixed or floating.⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.⁸ Margin means the points over and above the floating rate.⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.**APPLICANT**

FORM- 8

Details of Allocation of corporate loans to various projects

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan ¹	Not applicable					
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.____/COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes,specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
	Distribution of loan packages to various projects					
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

¹ Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

² Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

³ Details are to be submitted as on 31.03.____ for existing assets and as on COD for the remaining assets.

⁴ Where the loan has been refinanced, details in the Form are to be given for the loan refinanced. However, the details of the original loan are to be given seperately in the same form.

⁵ If the Tariff in the petition is claimed seperately for various units, details in the Form are to be given seperately for all the units in the same form.

⁶ Interest type means whether the interest is fixed or floating.

⁷ Base rate means the base as PLR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.

⁸ Margin means the points over and above the floating rate.

⁹ At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits

¹⁰ Moratorium period refers to the period during which loan servicing liability is not required.

¹¹ Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

¹² Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

¹³ Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given seperately.

¹⁴ If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.

¹⁵ In case of Foreign loan, date of each drawal & repayment alongwith exchange rate as on that date may be given.

¹⁶ Base exchange rate means the exchange rate prevailing as on 31.03.____ for existing assets and as on COD for the remaining assets.

Applicant

Statement of Additional Capitalisation after COD

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amt in Cr)

Sl.No	Year	Work/Equipment added after COD up to Cut off Date/Beyond Cut off Date ¹	Amount Capitalised / Proposed to be Capitalised	Justification	Admitted Cost ¹
1	2	3	4	5	6
1	2010-11	Plant & Machinery	0.28		0.28
2	2011-12	Plant & Machinery	-		0.00
3	2012-13	Plant & Machinery	1.22		1.22
4	2013-14	Plant & Machinery	0.04		0.04
5	2014-15	Plant & Machinery	0.06		0.06
6	2015-16	Plant & Machinery	-		0.00
7	2023-24	Plant & Machinery	-		0.00
	Total		1.60		1.60

1. Separate statements of Additional Capitalisation for (1) after COD and upto Cut off date; and (2) beyond cut off date are to be furnished.

2. In case of the project has been completed and any tariff notification(s) has / have already been issued in the past by Govt. of India or any other authority, fill column 6 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1. Fill the form in chronological order year wise along with detailed justification and clearly bringing out the necessity and the benefits accrued to the beneficiaries.

2. In case initial spares purchased along with any equipment, then the cost of such spares should be indicated separately, e.g. Rotor- 50 Crs. Initial spares - 5 Crs. etc.

APPLICANT

Financing of Additional Capitalisation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

Date of Commercial Operation: 12.11.1997

(Amount in Cr)

Financial Year (Starting from COD)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	9
Amount capitalised in Work/Equipment	0.28	-	1.22	0.04	0.06	-	-
Financing Details							
Loan 1:Govt. of Bihar	0.19	-	0.85	0.03	0.04	-	-
Loan 2:							
Total Loan²							
Equity	0.08	-	0.37	0.01	0.02	-	-
Internal Resources							
Others							
Total	0.28	-	1.22	0.04	0.06	-	-

¹ Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

² Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

APPLICANT

Statement of Depreciation

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amount in Cr)

Financial Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8
Depreciation on Capital Cost	2.59	2.59	2.65	2.65	2.65	2.65	2.65
Depreciation on Additional Capitalisation							
Amount of Additional Capitalisation							
Depreciation Amount	2.59	2.59	2.65	2.65	2.65	2.65	2.65
Detail of FERV							
Amount of FERV on which depreciation charged							
Depreciation amount	2.59	2.59	2.65	2.65	2.65	2.65	2.65
Depreciation recovered during the Year							
Advance against Depreciation recovered during the Year							
Total depreciation and advance against depreciation recovered during the year	2.59	2.59	2.65	2.65	2.65	2.65	2.65
Cumulative Depreciation & Advance against Depreciation recovered upto the year	5.17	7.76	10.41	13.06	15.71	18.36	34.35

¹ Depreciation recovered in Tariff upto FY 10 to be furnished with year wise details in the same form seperately with supporting details.

APPLICANT

FORM- 12**Calculation of Depreciation Rate****Name of the Utility / Company:** Bihar State Hydroelectrical Power Corporation Ltd.**Name of the Hydro Power Station:** Eastern Gandak Canal HEP, Valmikinagar

(Amount in lakhs)

Sl. no.	Name of the Assets ¹	Cost of asset as on 31.03.2010 or as on COD, whichever is later	Depreciation Rates as per Schedule approved by CERC	Depreciation Amount
	1	2	3	4(Col.2 X Col.3)
1	Non residential building	NA	NA	
2	Power House			
3	Road and Bridge			
4	Water supply and installation			
5	Sub Station Trnasformer			
6	Main Generating equipment			
7	Power channel			
8	Switch Yard			
9	Crane hosting equipment			
10	Electrical equipment			
11	Tools and equipment			
12	Intake gate			
13				
	TOTAL			
	Weighted Average Depreciation Rate (%)			

¹ Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule approved by the CERC.

APPLICANT

FORM- 13

Calculation of Interest on Actual Loans¹

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amount in lakhs)

Sl. no.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7	8
	Loan-1	GoB	GoB	GoB	GoB	GoB	GoB
	Gross loan - Opening	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE						
	Total	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Repayment (s) of Loans during the year						
	Net loan - Closing	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Average Net Loan						
	Rate of Interest on Loan	13%	13%	10.50%	10.50%	10.50%	10.50%
	Interest on loan	383.08	383.08	309.41	309.41	309.41	309.41
	Total Loan						
	Gross loan - Opening	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Cumulative repayments of Loans upto previous year						
	Net loan - Opening	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Increase / decrease due to FERV	Nil	Nil	Nil	Nil	Nil	Nil
	Increase / decrease due to ACE						
	Total	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Repayment (s) of Loans during the year						
	Net loan - Closing	2946.74	2946.74	2946.74	2946.74	2946.74	2946.74
	Average Net Loan						
	Interest on loan	383.08	383.08	309.41	309.41	309.41	309.41
	Weighted average Rate of Interest on Loans	13%	13%	11%	11%	11%	11%

¹In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in Orginal currency is also to be furnished seperately in the same form.

APPLICANT

Calculation of Advance Against Depreciation (AAD)

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amount in lakhs)

Particulars					
1	2	3	4	5	6
1/10th of the Loan(s)	Not applicable				
Repayment of the Loan(s) as considered for working out Interest on Loan					
Minimum of the Above					
Less: Depreciation during the year					
(A ¹)					
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan					
Less: Cumulative Depreciation					
(B ¹)					
Advance Against Depreciation (Minimum of A & B)					

¹If the amount is negative, it will be shown as zero.

APPLICANT

FORM- 15
Calculation of Interest on Working Capital

Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.

Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar

(Amount in Cr)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
1	2	3	4	5	6	7	8	9
1	O & M expenses	0.26	0.28	0.30	0.29	0.19	0.17	0.28
2	Maintenance Spares	0.65	0.65	0.66	0.66	0.66	0.66	0.66
3	Recievables	1.53	1.52	1.54	1.49	1.28	1.25	1.47
	Total Working Capital	2.43	2.44	2.50	2.44	2.13	2.08	2.41
	Rate of Interest	15.30%	15.30%	15.30%	15.30%	15.30%	15.30%	15.30%
	Interest on Working Capital	0.37	0.37	0.38	0.37	0.33	0.32	0.37

Applicant

																						FORM- 16	
Name of the Utility / Company: Bihar State Hydroelectrical Power Corporation Ltd.																							
Name of the Hydro Power Station: Eastern Gandak Canal HEP, Valmikinagar																							
Draw Down Schedule for Calculation of IDC & Financing Charges																							
(Amount in Lakhs)																							
Sl. No.	Draw Down	2003-2004			2004-2005			2005-2006			2006-2007			2007-2008			2008-2009			2009-2010 to 2015-16			
	Particulars	Quantum in Foreign currency	Exchange Rate on draw down	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	
1	Loans																						
1.1	Foreign Loans																						
1.1.1	Foreign Loan 1																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.1.2	Foreign Loan 2																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.1.3	Foreign Loan 3																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.1.4	--																						
	--																						
	--																						
1.1	Total Foreign Loans																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.2	Indian Loans																						
1.2.1	Govt. Of Bihar																						
	Draw down Amount																						
	IDC																						
	Financing charges		299.07			299.07			299.07			299.07			299.07			299.07			299.07		
1.2.2	Indian Loan 2																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.2.3	Indian Loan 3																						
	Draw down Amount																						
	IDC																						
	Financing charges																						
1.2.4	--																						
	--																						
	--																						
1.2	Total Indian Loans																						
	Draw down Amount			1993.8			3987.6			5981.4			7975.2			7975.2			7975.2		7975.2		
	IDC																						
	Financing charges		299.07			299.07			299.07			299.07			299.07			299.07			299.07		
1	Total of Loans drawn			1993.8			3987.6			5981.4			7975.2			7975.2			7975.2		7975.2		
	IDC																						
	Financing charges		299.07			299.07			299.07			299.07			299.07			299.07			299.07		
2	Equity																						
2.1	Foreign equity drawn																						
2.2	Indian equity drawn																						
	Total equity deployed			2292.87			4286.67			6280.47			8274.27			8274.27			8274.27		8274.27		
Note: Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule.																							
																						APPLICANT	

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company / Utility : _____

Name of the Power Station : Eastern Gandak Canal HEP, Valmikinagar

(Amt in Cr)

	ITEMS	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2023-24
	1	2	3	4	5	6	7	8
(A)	Breakup of O&M expenses							
#	Consumption of Stores and Spares							
#	Repair and Maintenance							
#	Insurance							
#	Security							
#	Administrative Expenses							
	- Rent							
	- Electricity Charges							
	- Travelling and conveyance							
	- Telephone, telex and postage							
	- Advertising							
	- Entertainment							
	- Others (Specify items)							
	Sub-Total (Administrative Expenses)							
#	Employee Cost							
	a) Salaries, wages and allowances							
	b) Staff welfare expenses							
	c) Productivity linked incentive							
#	Corporate office expenses allocation							
#	Total (1 to 8)	3.09	3.31	3.59	3.43	2.24	2.05	3.32
	LESS: Recovered , if any							
	Net Expenses							

Notes:

I. The process of allocation of corporate expenses to generating stations should be specified

II. An annual increase in O&M expenses under a given head in excess of 20 percent should be explained

III. The data should be based on audited balance sheets

(B)	Breakup of corporate expenses (Aggregate)							
	- Employee expenses							
	- Repair and maintenance							
	- Training and Recruitment							
	- Communication							
	- Travelling							
	- Security							
	- Rent							
	- Others							
	Total							
(C)	Details of number of Employees							
	i) Executives							
	ii) Non-Executives							
	iii) Skilled							
	iv) Non-Skilled							
	Total							

(APPLICANT)

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.

PATNA – 800 001

**ARWAL SMALL HYDEL PROJECT
(1 X 500 KW)**

DETAILED PROJECT REPORT

April - 2000

CHECK LIST

<u>NAME OF THE PROJECT</u>	<u>ARWAL</u>
<u>LOCATION :</u>	
a. State	Bihar
b. District	Jehanabad
c. Taluka	Arwal
d. Site	Arwal
<u>CATEGORY OF THE PROJECT</u>	
<u>a. Micro Hydel</u>	
Hydroelectric schemes with a total installed capacity upto 100KW having individual units with capacities of a few KW to 100KW	
<u>b. Mini Hydel</u>	Mini Hydel Project
Hydroelectric schemes with a total installed capacity upto 2000KW or near around with capacities of individual units from 100KW to 1000KW.	
<u>c. Small Hydel</u>	
Hydroelectric schemes with a total installed capacity upto 15MW with individual units having capacities from 1 MW to 5 MW	
<u>PLANNING</u>	
Has the overall development of the stream / canal been prepared and stages of development discussed briefly ?	Yes
Have the alternative proposals been studied and their merits and demerits discussed ?	Yes
Have the detailed topographical surveys been carried out for the following items and drawings prepared as per prescribed scales.	
a. Stream Surveys	Yes
b. Head work surveys (weir or diversion structures)	Yes
c. Camp Site	Yes

d. Water conductor system	Yes	
e. Power House, Switchyard, Tailrace	Yes	
f. Penstock	Not applicable	
g. Communication, etc.	Yes.	
<u>GEOLOGY</u>		
Have the geological surveys for headwork's, powerhouse and tailrace, etc., been carried out and report on general geology of the area and on geology of the sites of principal structures appended?	Yes	
<u>FOUNDATION INVESTIGATIONS</u>		
Have the foundation investigations for the major civil structures and of the scheme been carried out.	Yes, but detailed investigation to be done for design & Engineering.	
<u>MATERIAL SURVEYS</u>		
Have the surveys and laboratory tests for construction materials like pervious and impervious soils, sand, aggregates, etc. been carried out: (wherever necessary)	Yes	
<u>HYDROLOGY & HYDROLOGICAL INVESTIGATIONS</u>		
Have the hydrological and meteorological investigations been carried out and status of data discussed in report?		
i. Rainfall in the catchments	Not applicable	
ii. Gauge and discharge data of the stream / canal	Yes	
<u>HYDROLOGY</u>		
Have hydrological studies been carried out to establish the availability of water for the benefits envisaged, and what is the dependability of the potential	Yes	
	Dependability %	Discharge in Cumecs
	25	23.15
	50	13.25
	75	5.75
	83.33	3.50

<u>LAND ACQUISITION & RE-SETTLEMENT (Wherever Applicable)</u>	
Have the provisions for land acquisition and resettlement been considered	The land belongs to Govt. Provision of cost made in estimate.
Have the socio-economic problems involved in resettlement been investigated and discussed	No resettlement needed. Socio-economic problems discussed.
<u>DESIGN</u>	
Has the layout of the project area viz. location of diversion structure, workshop sheds, offices, camps, etc. been finalised ?	Yes
Have the preliminary designs been prepared for the following components?	
a. Diversion Weir/Gate.	Not applicable.
b. Penstock and water conductor system etc.	Not applicable
c. Power House and switchyard	Yes
d. Power house equipment LT/HT switching equipment and control and protection equipment	Yes
<u>POWER BENEFITS:</u>	
Have the following been discussed ?	
a. Total energy production and installed capacity of the overall development of power of the region ? (If applicable)	Yes
b. How does the scheme fit into overall development of power of the region? (If applicable)	Yes
c. Energy generation from the Project firm power, seasonal power and total power.	Yes
d. Proposals for transmission and/or connecting to the existing system, etc. (wherever applicable)	Yes

e. Cost of generated per KW installed per KWh generated as compared to the various micro hydel projects and services in the region to justify the economic viability of the scheme.	Yes
<u>CONSTRUCTION PROGRAMME</u>	
Are the major components of work proposed to be done departmentally or through contractor? .	Through contractor or on Turn Key basis
Have the quantities of the following items been worked out for various components of the project?	
a. Excavation-soft & hard strata	Yes
b. Earthwork in filling (wherever applicable).	Yes
c. Stone for masonry	Yes
d. Coarse aggregate for concrete	Yes
e. Steel of various sizes and type of reinforcement	Yes
f. Cement	Yes
g. Other materials -P.O.L., Electricity	Yes
<u>ESTIMATE</u>	
a. Is the estimate prepared	Yes
b. Have the analysis of rates for various major items and the components of the project been furnished, with basis of analysis and the price index?	Yes
<u>ECOLOGICAL & ENVIRONMENTAL ASPECTS :</u>	
Is the area likely to have any environmental problems due to the altered surface water pattern and preventive corrective measures discussed? (wherever applicable)	No environmental and ecological and ecological effect expected
<u>CAMPS AND BUILDING</u>	

(6)

Has the planning of the camps / buildings been done ?	Yes
<u>SOIL CONSERVATION</u>	
Is the need for soil conservation measures in the project discussed?	Not applicable

SALIENT FEATURES

1. <u>LOCATION</u>			
i. State		Bihar	
ii. District		Jehanabad (30 Kms)	
iii. Taluka (Block)		Arwal Block (3 km)	
iv. Access –Road		From S.H.P site to Patna - Dehri State Highway – 0.5 Km. Grand Trunk Road (N.H.-2) Aurangabad-68 Kms	
Rail (B.G.)		Jehanabad Railway Station on Patna-Gaya Rail line of Eastern Railway - 30Km	
v. Geographical co-ordinates			
Latitude.		25°- 20' -15" North	
Longitude.		85° -2' -15" East.	
2. <u>CANAL FALL / LOW HEAD</u>			
i. Project.		Low Head Arwal S.H.P	
ii. Canal System		Located at 68.40 Km in Patna Branch Canal of Sone canal system.	
3. <u>Hydrology</u>			
Canal Falls/low Head Schemes			
i Design Discharge		18.12 Cumecs	
ii. Water availability			
<u>Percentage</u>	<u>Discharge</u>	<u>Head</u>	<u>Power in KW</u>
25%	23.15 cumecs	3.20M	639
50%	13.25cumecs	3.20M	366
75%	5.75 cumecs	3.20M	169
83.33%	3.05 cumecs	3.20M	97
4. <u>LOW HEAD / CANAL SCHEME</u>			
a. Shape		Trapezoidal	
b. Size		Bed width – 4.34M Full supply depth -1.931 M	
c. Capacity of canal (cumecs)		18.12 cumecs	
d. Full supply level		75.691 M above M.S.L	

e. Lining details (m)	Plain cement concrete lining length of power channel- 190M
f. Fall structure (m)	Existing -24M length
g. Height off all (m)	3.20M
h. By-pass arrangements	By pass canal
i. Bridges, if any	Existing S.L.R. Bridge
j. Annual closure period of canal (days)	120 days in a year for maintenance of canal.
5. <u>POWER HOUSE</u>	
i. Type	Verticak Semi Kaplan Syphon Intake Type
ii. Head (m)	
Maximum.	Gross Head –3.98 metre
Minimum	3.20M
Average	3.20M
Design	3.20M
.iii. Size of Power House	
a. Length (m)	10M
b. Width (m)	8 M
C Height (m)	8 M
d Machine Hall floor level	77.80M above MSL
iv. Installed Capacity (KW)	1 x 500 KW
v. Turbine(s) –Type	Semi Kaplan Syphon Intake Vertical Turbine
Number	One
Capacity (KW/HP)	500KW
vi. Type of generator	Synchronous Vertical Generator
a. Excitation system	Brushless
b Regulation system	Electronic Governor
vii. Power House crane/ lifting tackle capacity	12 Ton Semi E.O.T.
6. <u>TAILRACE</u>	
i. Shape	Trapezoidal
ii. Size	Bed width – 4.34 M Full supply depth –1.981 M

iii. Length (m)	200M, Plain cement concrete lining
iv. Water level	Fully supply level 72.437M above M.S. L
v. D.L.R. Bridge	1 (one) no.
vi. No. of draft tube	1 (One) no.
7. <u>POWER</u>	
i. Installed capacity	1 x 500 KW
ii. Firm power (KW) -Load factor in percent	1000 KW Plant load factor-50%
iii. Annual energy (KWH)	3351.2 x 10 ³ Kwh
iv. Power evacuation	Through single circuit 3KM long 11 KV line from SHP to Arwal 33/11 KV grid sub-station of B.S.E.B
8. <u>SWITCHYARD</u>	
i. Voltage level/ Basic insulation level	0.415/11 KV
ii. No. of bays	One
iii. Size : (a) Length (b) Width	8M 5M
iv. Number-of transformer of 0.415/11 KV	One
v. Capacity of Transformer	625 KVA
9. <u>ESTIMATES OF COSTS</u>	
i. Total Costs	Rs. 3,18,00,000/-(excluding IDC)
ii. cost per KW installed	Rs.. 63,600/-
iii. Cost of generation per KWh	1.32-Paise
iv. Benefit cost ratio	2.16
v. Cost of sale of energy per KWh allowing 16% profit on capital + 0.5% reserve.	Rs.2.89
vi. Pay Back Period	3.41 years.

GOVERNMENT POLICY REGARDING S.H.P

1.1 State Government Policy

- 1.1.1 In order to bridge the gap between demand and supply of electrical power and energy which is increasing in great proportion, the Govt. of Bihar has decided to encourage harnessing of the hydro-power potential in hilly areas. The Government has also decided to encourage private entrepreneurs to install such small power station and also allow them to distribute the power in nearby licensed area directly or to pump the generated power to the Bihar State Electricity Board grid. Such private entrepreneurs can have their own Tariff for supply of electricity to their consumers in the licensed area as per the Resolution No.643, dated 10.3.93 of Department of Energy, Government of Bihar.
- 1.1.2 The Draft Policy Guide lines for the private participation for development of non-conventional energy sources in the State of Bihar with regard to Power Purchase Policy, wheeling charges, banking and interfacing is already under consideration of the government and very soon this policy will be decided and come into force.

1.2 Central Government Policy

- 1.2:1 The Government of India through Ministry of Non-conventional Energy Sources. Power group, has in order to give thrust to this programme, also decided to provide maximum capitalised interest subsidy amount upto Rs. 38.3 lakhs per MW or the actual capitalised interest subsidy amount whichever is lower to bring down the interest rate by the financial institutions for execution development of Small Hydel Projects upto 3MW station capacity. This interest subsidy will be provided for the project taken in the private sector, co-operative sector, N.G.Os, Local bodies, S.E.Bs, and Government Departments and public sector corporations barring loss making private and public sector entrepreneurs.
- 1.2.2 The Ministry of Non-conventional Energy Sources has also introduced the following subsidy scheme in respect of S.H.P. projects upto 3 MW capacity.

i. For grid connected projects -subsidy upto 25% of the acceptable costs of civil works and E & M equipment including generator transformers.

ii. For non-connected projects and projects in North-Eastern Region and hilly regions (Whether arid connected or non-arid connected) :- Subsidy upto 50% of the acceptable capital costs of civil works and E & M equipment including the transformers. The projects are taken to be non-grid if the grid transformer is in excess of 2 KMs from the projects site. further, power from the S.H.P. project not connected to the grid or in North-Eastern Region and in hilly regions is to be supplied at the reduced rates reckoned on a cost of generation calculated after netting out subsidy element from the capital cost.

1.2.3 For giving the above subsidy the following will be taken as the acceptable capital cost of civil works and E & M equipment including generator transformer for providing the subsidy :-

Board Category of Project	Capital cost/KW of E & M and civil works for <u>provision of subsidy.</u>	
	Station Capacity below 500KW	Station capacity 500KW & above
1. Run off river projects in plain regions	Rs. 38,000/-	Rs. 34,000/-
2. Projects in North-Eastern region and other hilly areas (as declared by State Govt.)		
a. Within 10 Kms from road head	Rs. 40,000/-	Rs. 36,000/-
b. Between 10-20 Kms from road head	Rs. 45,000/-	Rs. 40,000/-
c. above 20 Kms from road head	Rs. 50,000/-	Rs. 45,000/-

POWER SCENARIO IN BIHAR AND NEED OF THE PROJECT

In Bihar, the responsibility of meeting the power demand in the D.V.C. Valley Area is of D.V.C. For the remaining area, the total responsibility of meeting the power demand is the responsibility of State Government through State Electricity Board, Tenughat Vidyut Nigam and Bihar Hydro Electric Power Corporation.

The 15th Power Survey assessed the power and energy demand of Bihar outside D.V.C. area as follows:-

Year	1999-00	2000-2001	2000-2002
Energy Demand in M Kwh	10765	11492	12222
Peak Load(MW)	2048	2186	2325

Even the above forecast of the demand was based on the suppressed demand in Bihar at the time of 15th Power Survey. This is because of the fact that there is inadequate transmission, distribution network to meet the total demand of the state outside D.V.C. Valley.

In the B.S.E.B. system there has not been any addition in the generating capacity since 1986 except two units of 210 MW at Tenughat Thermal Power Station. The generating units of Patratu, Barauni, and Muzaffarpur are not functioning well and the B.S.E.B. has derated their capacity and the derated capacity availing as follows:-

Patratu	-640MW
Barauni	-210 MW
Muzaffarpur	- 220 MW
Tenughat	- <u>420MW</u>
	<u>1490MW</u>

Besides, Subernrekha Hydel Power Project of 130 MW capacity runs only for few hours during peak load period. .

The present demand of power in B.S.E.B. area is hardly 1000MW during normal consumption period and 1400MW during peak period. This demand is a suppressed due to several reasons as explained above.

The average monthly consumption of energy in the State (outside D. V.C. area) is generally met from the following sources:

From N.T.P.C.	390 MU
From Power grid Corpn. (Sukha from Bhutan)	30 MU
From Tenughat Vidyut Nigam-	<u>100 MU</u>
From State Electricity Board Power Stations	200 MU
Total	<u>720 MW</u>

With this average monthly consumption the yearly consumption in the State will be 8640 MU against the projected demand of 11492 MU in the year 2000-01 and 12222 MU in the year 2000-02. The available energy, therefore, falls short of the present and projected demand.

Against the 1000 MW power demand during the non -peak period and 1400MW power during peak period about 600 MW are purchased from N.T.P.C. and Power grid Corporation and Tenughat Thermal Power Station and about 300 MW generated at Board's Power Stations. Even with the suppressed demand of the State there is shortage of 400 MW power which is about 25% of the power demand.

Besides, for successful operation of any Power System, Hydro-Thermal mix of 40:60 is considered to be ideal one and that of 25:75 is satisfactory. Even with the present Thermal installed capacity of 1490 MW for achieving the Hydro-Thermal mix of 40:60, there should have been about 993 MW capacity of Hydel Power Stations and for achieving Hydro-Thermal mix of 25:75, there should have been about 496.50 MW of installed capacity of Hydel Power Stations.

There is thus shortage of power, shortage of energy and also a very low Hydro-Thermal mix in the State and this calls for installation of Hydel Project in the State wherever possible to obviate the shortage. There is, therefore, need of this Power Station to be installed early.

CHAPTER-1 SCOPE OF THE PROJECT

- 1.1 The Sone Canal System emanating from Indrapuri Barrage on the river Sone plays a key role in ushering tremendous irrigation potential to the vast track of land of Bihar. The track cover in this system pertains to the districts of Patna, Aurangabad, Bhojpur, Rohtas, Buxar, and Jehanabad. This canal has a good number of falls provided for systematic irrigation of the area. These falls located for best utilisation of water for irrigation purposes can be harnessed for power generation.

The main canals, Western Link Canal on left side and Eastern Link Canal on the right side of Sone river, flows in the region. After traversing a distance of 10.90 km of the Western Link Canal, Main Eastern Canal starts. In Main Eastern Canal some Branch Canals emanate as per the requirement for best utilisation of water for irrigation; one of them is Patna Branch Canal. The ARWAL SHP site falls in the Patna branch Canal.

- 1.2 There are a number of low head canal drops along the Branch Canals. In view of the Government thrust to develop and utilise the micro/mini/SHP of the State, B.H.P.C. has decided to harness the power potential of canal drops which are at approachable locations and viable. This project report covers to utilise Arwal fall site at a distance of 68.40km in Patna Branch Canal for power generation. The schematic diagram of Sone Canal System is given in Exhibit -1.

- 1.3 The Arwal SHP covers the following main features:-

- a. **Power Channel** : For this SHP it is proposed to take out a Power- channel from 190m up stream of the fall on Right side of the Patna Branch Canal and this will be a lined canal. The Power House will be located in this channel. The Power Channel will be trapezoidal in shape. Escape arrangement will be provided to divert the water from power channel to main canal when the power plant suddenly stops and due to surge action the level of water in the canal increases.

b. It is proposed to install Syphon Intake Type Vertical semi-kaplan Turbine, this being the most economical alternative as discussed in Chapter -11.

c. Power House consists of three essential constituents namely -(i) Machine Hall or unit bay; (ii) Control Room; (iii) Erection bay and auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. Size of the power house building will be 10M x 8M. The ceiling height of the building will be 8M. In order to facilitate the handling of equipments control room, battery room, office and stores have been located separately.

d. An open switchyard has been planned by the side of the Power House main building. The Power House will be connected to the nearest B.S.E.B. grid. The cost of transmission line has been included in the project estimate.

1.4 General layout plan of the project is shown in Exhibit -3.

1.5 For construction power as a first priority 11 KV line from Arwal 33/11 KV sub-station with transformer at SHP will be constructed and power will be made available. This line will be used later for evacuation of power. A 30 KVA diesel generating set has also been included in the estimate for meeting emergency requirement during construction as well as during operation and maintenance.

1.6 The project will be self- contained, providing necessary basic facilities to the personnel working during construction and O & M. This SHP will add to the generating capacity of the State which is power starved.

CHAPTER -II
INTRODUCTION

2.1 GEOGRAPHICAL DISPOSITION

2.1.1 The project is located in the plains of South Bihar. The geographical coordinates of the proposed site are as under :

Latitude- 25 0- 20' -15" North

Longitude- 85° -2' -15" East.

The schematic diagram of Sone Canal system showing location of Arwal SHP is given in Exhibit -1.

2.2 TOPOGRAPHY AND PHYSIOGRAPHY:

Arwal S.H.P. is located in Arwal village in the Patna Branch Canal. The land in the vicinity is cultivable. The area bears no undulation and is good for cultivation.

The average elevation of the project site is 76.84M above M.S.L. A topographical survey of the area has been carried out and the same is placed in Exhibit -2.

The nature of the soil is good for crops as well as manufacturing Class -A bricks. The bearing pressure of the soil at the site is estimated to be 9 M. T. per M² at the depth of 2.5 metre below natural soil level. This has however, to be measured before undertaking detail design and engineering.

2.3 GEOLOGY

The project area falls in the Sone-Ganges basin, which consists of thick alluvial soil, the thickness of which varies from 3M to 5M. Details have been indicated in Chapter 'Geology' separately.

2.4 HYDROLOGY

The discharge data has been collected from Water Resources Deptt., Government of Bihar, Patna. Discharge Data pertains to the period of ten years ranging from 1986 to 1995.

At the fall site discharge measurement is done by Water Resources

Department and the same has been adopted for computation of power potential. This indicates that this quantum of water will be available and can be utilised for power generation.

Based on the requirement of water for various types of crops, the discharge fluctuates in the canal. The canal remains closed in the month of March, April, May and mid -June. During the winter season water discharge of the canal is less as it irrigates the Rabi crops, which in general, require less water. In brief, water in the canal remains available for 66% to 70% of the period in a year.

The details of availability of water and percentage dependability for power generation have been indicated in Hydrology Chapter.

2.5 CANAL SYSTEM

The Sone Canal System emanating from Indrapuri barrage on the river Sone plays a key role in ushering tremendous irrigation potentiality to the vast track of land of Bihar. The track covered in this system pertains to the districts of Patna, Aurangabad, Bhojpur, Rohtas, Buxar and Jahanabad. This Canal system has a good number of falls provided for systematic irrigation of the area. These falls located for best utilisation of water for irrigation purposes, can be harnessed for power generation.

Exhibit No. -1 shows the schematic diagram of the Sone Canal System.

The Main Canals, Western Link Canal on left side and Eastern Link Canal on the right of Sone River, flows in the region. Western link Canal on left side of Sone River travels in length of 10.90 km, from where main Western Canal takes off and goes upto 11.6 km in length. Patna Branch Canal starts main Eastern canal and goes up to 127.30 Km. In length. Arwal SHP is located at 68.40 km in Patna Branch Canal.

2.6 LOCATION OF PROJECT AREA

The proposed S.H.P. site is located near village Arwal in Arwal Block of Jhanabad district. This site falls at 68.40 km in Patna Branch Canal. The National Highway No.2 (Grand Trunk Road) at Aurangabad is 68 km away

from the site. The state highway (Patna - Aurangabad) passes at the distance of 0.5Km from the S.H.P. site.

Jhaanabad Railway Station is the nearest Railway Station located on Patna-Gaya line of Eastern Railway at a distance of 30km from the site. The nearest airport is Patna at the distance of 102 km. This site is thus approachable by pucca road and rail facility is also available.

The Arwal Block is 3 km from the S.H.P. site.

This site is also connected by service road of the Patna Branch Canal. This is good enough for movement of light vehicles and for transport of plant and equipment.

2.7 COMMUNICATION FACILITIES

Arwal S.H.P. is approachable by metalled road as well as railway facility is also available. All these have been elucidated in para 2.6 STD/ISD facility is available at Arwal only 3 km away and this facility can be extended up to the site as well.

2.8 CLIMATIC CONDITIONS

The area falls in central Bihar, where in general, tropical climate prevails. The maximum and minimum atmospheric temperature recorded in summer and winter seasons in 46.9°C and 5°C, respectively. The maximum mean annual temperature is 37.05°C and minimum mean annual temperature is 14.7°C. The relative humidity of the area varies from 86% (maximum) to 31% minimum. The average humidity is 64%.

The annual average rainfall is 1141.8mm. Maximum annual rainfall and minimum annual rainfall is 1718.6mm and 567. 7mm respectively. Heaviest rain- fall recorded in 24 hours is 254.5mm. The precipitation starts from mid - June and ends in mid -October. Thus barring four months being the rainy season, the remaining eight months may be treated as the working season though a little shower during December / January occurs occasionally.

2.9 SOCIO -ECONOMIC ASPECTS

The project site is in Central Bihar of Sone - Ganga Basin which is thickly populated. The inhabitants are predominantly agriculturists, who mostly thrive on agricultural products. With the spiral hike in population the incidence of yield per acre per capita has been reduced tremendously. Their modus - operandi is to utilise fossil fuel like petrol, diesel and K. Oil required for running their agricultural appliances. There are no industries in the area owing to non - availability of power. Thus they drift towards unwarranted activities and immigration of people are becoming more prominent specially among the poor and landless.

Provision of power facilities to the area now contemplated under this S.H.P. will lead them towards betterment and ameliorate their difficult living conditions. This area is in acute need of power so as to create industrial environment in the area and also prevent them from resorting to unwanted means of livelihood to which they are now accustomed. These efforts can succeed only if power potential is harnessed without disturbing the existing irrigation facility. Various types of industry would grow as per availability of power. With the industrial growth people will elevate their living condition thus putting a check on unwanted tendencies as well as immigration.

CHAPTER – III

SURVEY AND INVESTIGATION

3.1 TOPOGRAPHICAL SURVEY

The Topographical Survey had earlier been done by *M/s* D.N. Singh Associates Pvt. Ltd. During Survey & Investigation stage the topographical map of the area had been drawn and given in Annexure -1.

The Topographical Map includes topography of the canal fall, by-pass system, water conductor system, Power house, switchyard, tailrace channel and the colony.

The G. T.S. bench mark is already inscribed on the existing canal fall structure and all the levels have been taken with this bench mark as a reference. The approach road has also been shown in the Topographical Map.

3.2 HYDROLOGICAL SURVEYS

The discharge at the fall site is regularly being measured and recorded by the Water Resources Department of Government of Bihar. The daily discharge data for ten years i.e. from 1986 to 1995 has been obtained from Water Resources Deptt. and utilised for hydrological considerations of this project. (vide Table A).

3.3 METEOROLOGICAL SURVEYS

The nearest meteorological laboratory is at Dehri-on-Sone and the meteorological data of this station has been taken into consideration for this purpose.

CHAPTER –IV

WATER RESOURCES

- 4.1 Hydrological study has been conducted in order to assess the availability of water in the canal and for assessing the power potential to be harnessed. This canal is in operation for about one and a half century. Thus the hydrology of the canal is well established. The canal runs for 66% to 70% of the period in a year.

For about four months canal remains closed for maintenance work. Flood occurrence in the vicinity has not occurred since no major river or rivulets are flowing nearby. As such, design flood peak for sizing the system is not required.

- 4.2 All discharge and other relevant data have been obtained from Water Resources Department of the Government of Bihar. Eastern Link Canal originates on left side of Indrapuri Barrage and traverses a length of 10.90km from where are main Eastern canal originates. Patna Branch Canal takes off at 11.60km of the main Eastern Canal. The Arwal fall is located at a distance of 68.40 km of the Patna Branch Canal. Arwal S.H.P. is proposed to be located at this fall site.
- 4.3 Due consideration of the data obtained from the Irrigation Department has been given while evaluating the discharge data and power capacity of the proposed S.H.P. The nearest rainfall observatory is located at Dehri -on - Sone and for all purposes of design the same has been considered. The maximum and minimum annual rainfall in the region is 1718.6mm and 567.7mm respectively. Average annual rainfall is 1141.8mm.
- 4.4 As estimated, 70% of the annual precipitation occurs during monsoon. The actual observed discharge data has been collected from the Irrigation Department. Based on this data, the 10 days daily average discharge for each of the 10 years is computed in Table -'A'. Based on this the monthly 10 days daily annual average data was calculated and is given in Table 'B'. The percentage dependability and assessment of power potential has been calculated based on these data.

- 4.5 Water in the canal is released from Inderpuri Barrage on river Sone. Presently there is no consumptive use of water on the U/S of the barrage. Nabinagar Thermal Power Station (2 x 500MW) on right side of river Sone U/S of the barrage has been contemplated. Nabinagar Thermal Power Station is located at 25Km U/S of the barrage. In between this and the off take point of Sone Canal system 1 there is no industry and no tributary to the Sone river.
- 4.6 In general, quality of water is good and also suitable for construction purposes. During monsoon period the river carries sand of fine to coarse quality. Test Report of Sone river water conducted for Nabinagar Thermal Power Station is hereby indicated in table – 'C'.

TABLE -A
ARWAL SMALL HYDEL POWER STATION
10 (TEN) DAYS DAILY AVERAGE DISCHARGE DATA IN CUMECs

Month		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Jan.	I	5.45	5.81	5.62	5.41	4.82	5.68	2.73	5.78	8.76	5.04
	II	9.80	9.85	9.91	9.65	9.82	9.05	12.21	10.38	6.25	10.88
	III	15.02	15.35	14.02	13.85	13.62	12.35	17.92	12.25	12.14	12.47
Feb	I	21.95	22.34	22.42	19.39	22.01	22.65	22.80	23.31	22.58	20.65
	II	11.30	11.05	11.62	11.85	11.72	11.06	7.67	11.20	5.92	20.60
	III	10.12	9.85	10.05	10.08	10.16	10.35	18.96	10.65	9.96	1.62
March	I	11.79	11.82	11.25	11.11	11.95	11.87	20.20	12.53	9.52	5.57
	II	11.95	12.31	13.64	12.25	12.61	12.75	8.92	12.85	14.97	13.54
	III	13.75	13.67	11.33	13.62	13.02	12.51	11.11	13.85	15.79	12.86
April	I	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
	II	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
	III	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
May	I	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
	II	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
	III	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C	C.C
June	I	12.25	12.16	9.36	12.48	C.C	12.14	12.89	12.75	12.54	12.69
	II	3.03	4.02	3.98	4.16	C.C	C.C	4.92	4.65	4.15	4.13
	III	18.05	18.53	18.72	20.96	22.51	10.80	18.85	18.79	18.68	10.25
July	I	21.86	21.69	28.10	7.76	24.70	30.11	21.92	21.88	21.75	18.41
	II	18.68	18.89	18.50	14.59	14.89	24.37	23.90	23.12	19.16	13.04
	III	23.02	23.51	23.08	25.68	29.20	16.18	27.95	28.20	23.92	20.74
August	I	26.02	26.5	34.52	30.46	19.15	22.80	23.30	27.78	26.84	25.79
	II	30.52	30.61	33.77	34.94	29.18	32.43	26.87	29.21	31.31	26.35
	III	28.95	28.02	34.48	33.61	29.81	30.19	29.05	30.58	30.02	25.31
September	I	28.70	28.56	34.65	35.23	27.46	25.78	26.74	26.71	25.55	26.45
	II	28.01	27.89	42.41	38.49	33.10	8.35	28.26	24.59	29.29	19.13
	III	26.85	27.09	33.48	33.22	34.05	27.75	27.17	22.37	24.04	13.62
October	I	24.85	24.91	25.08	25.80	29.58	24.78	21.51	19.70	21.55	21.22
	II	25.31	25.27	21.34	28.79	26.05	33.05	11.08	25.06	29.47	26.10
	III	20.06	20.58	3.96	2.26	20.12	32.67	17.90	24.90	33.15	27.20
November	I	19.18	19.65	19.42	19.75	17.41	19.79	19.85	18.54	10.07	28.44
	II	18.62	18.91	18.58	18.45	18.68	23.51	19.98	14.68	8.73	28.54
	III	6.52	6.72	6.58	6.85	6.78	12.47	7.67	6.48	1.13	C.C
December	I	3.11	3.01	3.08	3.51	3.74	3.54	4.27	3.95	C.C	3.65
	II	5.35	5.61	5.48	5.78	5.45	4.55	5.87	7.01	C.C	6.92
	III	10.74	11.51	11.62	11.75	11.82	11.05	11.98	16.81	6.97	11.85

C. C. = Canal Closed.

TABLE-B
ARWAL SMALL HYDEL POWER STATION
10 (TEN) DAILY ANNUAL DISCHARGE DATA
(IN CUMECS)

Month		Discharge	Month		Discharge
January	I	5.51	July	I	21.82
	II	9.78		II	18.91
	III	14.18		III	23.15
February	I	22.01	August	I	26.27
	II	11.40		II	30.48
	III	10.18		III	29.00
March	I	11.76	September	I	28.63
	II	12.48		II	27.95
	III	13.25		III	26.97
April	I	0.0	October	I	24.88
	II	0.0		II	25.14
	III	0.0		III	20.28
May	I	0.0	November	I	19.21
	II	0.0		II	18.87
	III	0.0		III	6.80
June	I	12.14	December	I	3.54
	II	4.13		II	5.78
	III	18.94		III	11.61

TABLE-C
SONE RIVER WATER ANALYSIS

S.N.	Item	Unit	Value
1.	Turbidity NTU	ppm	about 30
2.	PH	No	8.3
3.	P–alkalinity	ppm	Nil
4.	Total alkalinity	ppm	130
5.	Total hardness	ppm	130
6.	Calcium hardness	ppm	80
7.	Temporary hardness	ppm	130
8.	Permanent hardness	ppm	Nil
9.	Total dissolved solids	ppm	205
10.	Total suspended solids	ppm	15
11.	Chloride as Cl	ppm	6.5
12.	Sulphates as SO ₄	ppm	30
13.	Silica as SiO ₂	ppm	18
14.	Calcium as Ca	ppm	34.4
15.	Magnesium as Mg.	ppm	12.1
16.	Sodium as Na	ppm	12.1
17.	Potassium as K	ppm	3.1
18.	Conductivity	Micro / Mho / cm.	380
19.	Bicarbonates	ppm	130

4.7 Water analysis can be considered for the design of turbine and other equipment taking into consideration silt / sand load carried into the stream during the period of monsoon.

4.8 For realistic formulation of the scheme, actual observed discharge obtained from the Water Resources Deptt. Government of Bihar has been taken into account. It may be mentioned here that the actual discharge flowing in the canal is less than the design discharge of the canal.

CHAPTER- V

GEOLOGY

- 5.1 The project site lies in Central Bihar having surrounded by two major river Sone & Ganges. The deposits of thick alluvium soil inundates this region and this indicates that the area belong to the last phase of depositional period of the earth, At the project site in general, the area is plain in nature.
- 5.2 Geologically the entire track has achieved the established soil pattern due to perennial irrigation system since century and a half, Upper strata upto 3 metres is Kewal soil followed by 6 meters depth of dhumas soil and thereafter 6 meters depth of Kankar mixed soil. Fine to coarse sand is found of the depth of 15 metres from the natural ground level. Thus the whole area is falling flat plain either covered by black soil or alluvium.
- 5.3 Ground water table is found at 12.00M depth, but this depth varies. During monsoon period the water table remains at 7M below the natural ground level. The power channel and the tailrace channel will remain above the sub - soil water level. Suitable drainage arrangement shall be made to over come the water logging. Bearing Pressure at the project site is considered as 9 MT per M² at 2.5metre depth. This however, will have to be checked before undertaking detail design and engineering.
- 5.4 Barring about four months, complete year is treated as working season. Monsoon period covers from mid-June to mid-October in a year with a few showers of rain during winter the average annual rainfall in this area is 1141.8mm.
- 5.5 The project area lies in Zone -II of seismic zone as per India seismic zone classification.

CHAPTER -VI

CONSTRUCTION MATERIAL MANAGEMENT

6.1 Design and planning of Power House, its allied structures, power channel, tailrace channel, D.L. Road Bridge and others have been contemplated to contain economy, utility and stability.

6.2 Cement

6.2.1 Ordinary Portland Cement conforming to I.S.S. 269 shall be used in cement concrete plain / reinforced, mortar and grouting purpose. In case of scarcity of O.P.C., Portland Pazzolana Cement as per I.S.S. 1489 will be allowed in certain structures.

6.2.2 Cement is available in Dehri-on-Sone / Sonenagar market and can be had from Banjari, Kalyanpur cement factory located in Rohtas district.

6.3 Reinforcement Steel

6.3.1 Reinforcement Steel complying with the requirement of the following I.S.S. shall be used.

i. Deformed bar / high yield
Strength bar as per I.S. 1786.

ii. M.S. Bars as per I.S.226 / 432.

Reinforcement bars will be free from rusts, dust, loose scales, oil paints and other coatings.

6.3.2 Steel will be of tested quality and can be procured from Sone nagar / Dehri on sone and Aurangabad district Head Quarter.

6.3.3 Structural Steel

Structural steel conforming to I.S. 226 or IS -2062 will be used in structures and for plates. The steel will be procured from Bokaro Steel Plant and from Tata Steel Company, Jamshedpur.

6.4 Bricks

Bricks complying with the requirement of I.S. 1077 will be used. Alluvial soil

available in the adjoining area will be utilised in manufacture of Class-A bricks. In case of non - availability, bricks would be manufactured with the existing sandy soil. Thus bricks will be procured locally.

6.5 Stone Aggregates

6.5.1 Stone aggregate are available at Karbandia in Rohtas district, 54 km from the site.

6.5.2 Aggregates shall be free from dirt, clay, lumps and other deleterious materials. It should be durable, angular, hard, dense and strong.

6.6 Sand

Sand is available in River Sone and transported from river about 3 Km distance. Sand will comply with the requirement of (a) I.S. 382 for R.C. work; (b) I.S. 2116 with minimum fineness modules of 1.5 for masonry, and flooring works; (c) I.S. 1542 for cement plaster work. Local sand will be utilised in filling works.

6.7 Other Materials

Other materials required in execution of works, like industrial gases, electrodes, G.C.I. / ACC sheets, etc. will be procured locally from Arwal / Aurangabad and transported to the site.

6.8 Estimated quantity of materials.

The estimated quantity of construction materials required for completion of civil work as in power channel, power house tailrace channel piers, gates etc. are indicated as under: -

			<u>Quantity</u>
1	Plain cement concrete	M ³	385
2	Reinforced cement concrete	M ³	625
3	Brick Masonry	M ³	430
4	Reinforcement steel	M. T.	52
5	Structural Steel	M. T.	45

CHAPTER -VII

BASIC SYSTEM SCHEME

7.1 This Power Station site is located at Arwal fall in the Patna Canal System. At a Arwal fall there is also a provision for a separate channel for navigation system. This navigation system is not in operation since a very long time. The maintenance of the navigation channel has also, therefore, been abandoned by the Water Resources Department.

7.2 For this S.H.P. it is proposed to take out a canal from 190M upstream of the fall on right side of the navigation canal. As it is proposed to install Syphon Intake Type Vertical Semi -Kaplan Turbine there will be no need for agate at either in -take of this bypass canal or at the gate of the power station.

In this S.H.P. there will be two units each of 500 KW capacity Syphon Intake Type semi Kaplan vertical Turbine each coupled with 500 KW Vertical Generator connected through reducing gear so as to enable installation of a standard generator. The generation will be at 415 Volt three phase 50 CPS, 0.9 pf. From Generator Terminal 1100V grade cable will be taken out and connected to the 0.415KV, three phase, aluminium bus of adequate capacity. There will be provision for grounding the neutral of the generator. From 0.415KV, three phase bus which will be connected to the generator, cable will be taken out for the outgoing feeder. As the inter- connection of this S.H.P. with the Arwal 33/ 11 KV grid sub -station has been planned at 11 KV, there will be one 625 KVA 0.415 KV /11 KV, three phase transformer. In between the transformer and the 0.415 KV bus there will be draw out type air circuit breaker of adequate capacity. After the Transformer on 11 KV side there will be provision of vaccum circuit breaker and thereafter 11 KV air break switch. Lightning arrestor will be provided at the structure for taking off 11 KV line to protect the transformer and the power station from heavy electrical surges. There will be provision of adequate C.T.'s, P.T.'s metres and other protection system as hereinafter described in Chapter -11.

7.3 For auxiliary consumption one three phase line will be taken off from 0.415 KV bus which will be connected to a switch Fuse Unit and thereafter distributed for different purposes through Miniature Circuit Breaker of proper rating.

7.4 The general arrangement of the bypass channel showing the Power Station, Switchyard etc. will be clear from exhibit No.3.

7.5 The Single Line diagram showing the electrical system arrangement is given as Exhibit No.7.

CHAPTER-VIII
DESIGN REPORT

8.1 Computation of various Alternatives installed capacity

8.1.1 Data Available

8.1.1.1 The Water and power potential study has been envisaged based on the data as under :-

- a. Dependable flow
- b. Net head available.

8.1.2. Dependable flow

8.1.2.1. Discharge data for year 1986 to 1995 is available. Year wise 10 days daily discharge data is place in Table-A and 10 (Ten) daily annual average discharge data is placed in Table-B. Average dependable discharge is given in Table-D.

As evident from the hydrological data of the canal, canal remains closed for four months in a year which has been considered in evaluating the flow discharge pattern.

8.1.2.2. From percentage dependability it appears that at 27.77% to 63.88% the discharge varies from 22.00 cumecs to 11.40 cumecs. The corresponding power potential ranges from 607 KW to 315 KW as could be seen from Table -'E'. This aspect has been considered in formulating the capacity of the unit so that reliability of unit is maintained with optimum efficiency. Further elucidation has been indicated in Para 8.1.5 (INSTALLED CAPACITY).

8.1.3 Head Available

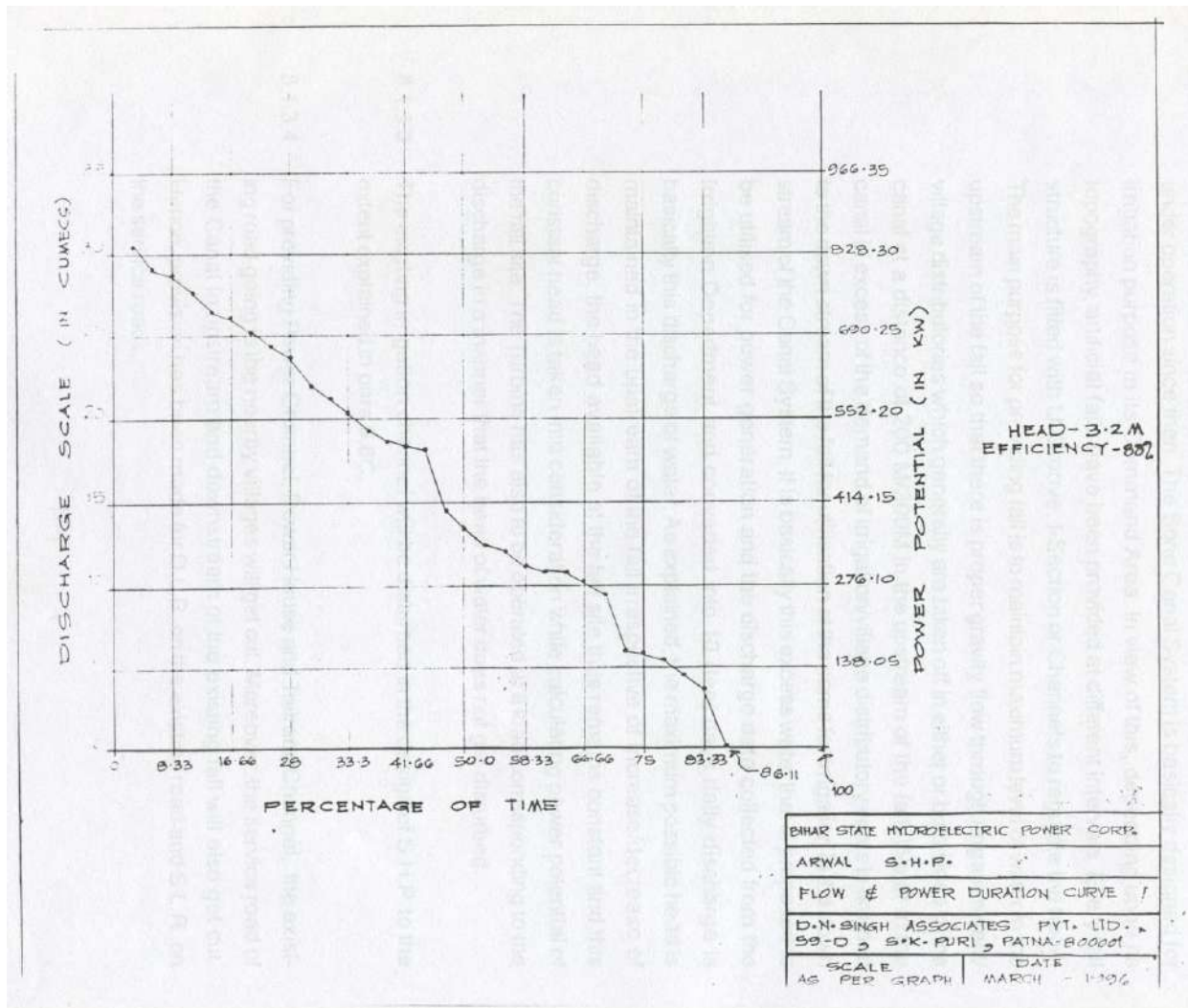
8.1.3.1 At Arwal fall site. net head of 3.20 metre is available, which is adequate to be considered for power generation.

TABLE - D**ARWAL SMALL HYDEL POWER STATION****AVERAGE DEPENDABLE DISCHARGE**

Time per dependable	Mean discharge in cumecs
02.77	30.45
05.55	29.00
08.33	28.60
11.11	27.95
13.88	26.95
16.66	26.25
19.44	25.10
22.22	24.85
25.00	23.15
27.77	22.00
30.55	21.80
33.33	20.25
36.11	19.20
38.88	18.95
41.66	18.90
44.44	18.85
47.22	14.15
50.00	13.25
52.77	12.45
55.55	12.10
58.33	11.75
61.11	11.60
63.88	11.40
66.66	10.15
69.44	9.75
72.22	6.80
75.00	5.75
77.77	5.50
80.85	4.10
83.33	3.50
86.11	0.00

TABLE- E**POWER POTENTIAL AT VARIOUS DEPENDABILITY**

Percentage Dependability	Discharge in Cumecs	Net Head in metre	Power Potential in KW
02.77	30.45	3.20	841
05.55	29.00	"	807
08.33	28.60	"	790
11.11	27.95	"	772
13.88	26.95	"	744
16.16	26.25	"	725
19.44	25.10	"	693
22.22	24.85	"	680
25.00	23.15	"	639
27.77	22.00	"	607
30.55	21.80	"	602
33.33	20.25	"	559
36.11	19.20	"	530
38.88	18.95	"	523
41.66	18.90	"	522
44.44	18.85	"	520
47.22	14.15	"	391
50.00	13.25	"	366
52.77	12.45	"	343
55.55	12.10	"	334
58.33	11.75	"	324
61.11	11.60	"	320
63.88	11.40	"	315
66.66	10.15	"	280
69.44	9.75	"	269
72.22	6.80	"	188
75.00	5.75	"	159
77.77	5.50	"	152
80.55	4.10	"	113
83.33	3.50	"	97
86.11	0.00	"	0



8.1.3.2 The Sone Canal System is more than century old. The irrigation potential is under operation since then. The Sone Canal System is basically designed for irrigation purpose in its Command Area. In view of this, depending upon its topography, artificial falls have been provided at different intervals. Every fall structure is fitted with U-Groove. I-Section or Channels to regulate the head. The main purpose for providing fall is to maintain maximum level of water in the upstream of the fall so that there is proper gravity flow through irrigation vent / village distributaries which generally are taken off in either or both sides of the canal at a distance of 200 M/300M in the upstream of the fall. Water in the canal in excess of the demand of irrigation/village distributory vents is drained to the down stream of the fall for utilisation of the same for irrigation in the down stream of the Canal System. It is basically this excess water that is proposed to be utilised for power generation and the discharge data collected from the Irrigation Department and converted into 10 (ten) days daily discharge is basically this discharge of water. As explained, the maximum possible head is maintained in the upstream of the fall irrespective of increase/decrease of discharge, the head available at the fall site thus remains constant and this constant head is taken into consideration while calculating power potential of the fall site. The Turbine has also to be operated at a load corresponding to the discharge in a manner that the head of water does not get disturbed.

8.1.3.3 The existing irrigation channel will be disturbed in the design of S.H.P. to the extent explained in para 9.8C.

8.1.3.4 For providing Power Channel, Power House and Tailrace Channel, the existing road going to the nearby villages will get cut. Moreover the service road of the Canal in upstream and downstream of the existing fall will also get cut. Hence, provision has been made for D.L.R. on the existing road and S.L.R. on the service roads.

8.1.3.5 Power House will be located in the by- pass channel and the tailrace channel will lead to the D/S in the main canal. .

8.1.3.6 The existing fall structure would not be disturbed. There is no provision of gates, etc. on upstream of Power House in the Power Channel or in the main Canal. Main canal is having provision for putting planks on the U -groove to maintain upstream head. Excess water due to surge action on sudden closure of the generating unit will be spilled through the ESCAPE made of concrete and masonry in the power channel upstream of the Power House and will be drained to the tailrace channel through hume pipe. A lump sum cost has been provided in the estimate but detail design and engineering will be done at the time of execution of the project.

8.1.4 **Power Potential**

8.1.4.1 With constant net head of 3.20 metre, flow and power potential has been computed and placed in Table -'E'.

8.1.4.2 For Power Potential - computation 88% of overall average machine efficiency has been considered.

8.1.5 **Installed Capacity**

8.1.5.1 Selection of the installed capacities of the power houses in both the circumstances is based on the following issues :-

- i. Demand of power
- ii. Running the machine for minimum period on part load.
- iii. Running one number of machine (out of two) for minimum period.
- iv. Total potential generated.
- v. Minimum expenditure without affecting generation.

8.1.5.2 The energy generated for different installed capacity varying from 400 KW to 600 KW has been computed and is placed in table -' F '.

It is evident from the Table -'F' that incremental benefit begins to fall for capacity beyond 500 KW. This has been elucidated in para 8.1.5.3 (below).

8.1.5.3 The annual energy generation for installed capacity of Units 400KW, 500KW, and 600KW works out 2882, 3351.2 and 3626 (Kwh x 10³). The inter difference in each two subsequent capacities is indicated in tabular form below:

Installed capacity	Annual energy generation (KWh x 10³)	Inter difference in energy (KWhx10³)
400 KW	2882	-
500 KW	3315.2	469.20
600 KW	23626	274.80

8.1.5.4 It is thus advisable to adopt installation of generating capacity of 500 KW at this S.H.P. As regards the decision for determining the number of units to be installed. Table -G with 2 x 500 KW capacity has been prepared according to which the total annual generation comes to 3343.76×10^3 Kwh. Whereas as per Table- 'H' if we install one unit of 500 KW only, the total annual generation will 3351.2×10^3 Kwh. There is thus difference of 7.44×10^3 Kwh in the annual generation between the two options i.e. one unit of 500 KW capacity and two units of 250 KW capacity. The cost of installation of 2 x 250 KW however comes to Rs. 376 lakhs against the cost of 318.00 lacs only with one unit of 500 KW capacity. There is thus saving of Rs. 58.00 lacs in the total cost of the project, thereby reducing per KW capital cost be Rs. 11,600 KW which is a substantial amount.

Table – ‘F’
Arwal S.H.P, Power Potential at Various Installed Capacity

Percentage Dependability	Discharge in cumecs	Head in Metre	Power Potential in KW	Power generated with installed capacity			Energy generated in KWH x 10 ³ with installed capacity of		
				400 KW	500 KW	600 KW	400 KW	500 KW	600 KW
02.77	30.45	3.20	841	400	500	600	117.4	146.7	176
05.55	29.00	3.20	807	400	500	600	117.4	146.7	176
08.33	28.60	3.20	790	400	500	600	117.4	146.7	176
11.11	27.95	3.20	772	400	500	600	117.4	146.7	176
13.88	26.95	3.20	744	400	500	600	117.4	146.7	176
16.66	26.25	3.20	725	400	500	600	117.4	146.7	176
19.44	25.10	3.20	693	400	500	600	117.4	146.7	176
22.22	24.85	3.20	680	400	500	600	117.4	146.7	176
25.00	23.15	3.20	639	400	500	600	117.4	146.7	176
27.77	22.00	3.20	607	400	500	600	117.4	146.7	176
30.55	21.80	3.20	602	400	500	600	117.4	146.7	176
33.33	20.25	3.20	559	400	500	559	117.4	146.7	176
36.11	19.20	3.20	530	400	500	530	117.4	146.7	164
38.88	18.95	3.20	523	400	500	523	117.4	146.7	155
41.66	18.90	3.20	522	400	500	522	117.4	146.7	153
44.44	18.85	3.20	520	400	500	520	117.4	146.7	152
47.22	14.15	3.20	391	391	391	391	115	115	115
50.00	13.25	3.20	366	366	366	366	103	103	103
52.77	12.45	3.20	343	343	343	343	100	100	100
55.55	12.10	3.20	334	334	334	334	98	98	98
58.33	11.75	3.20	324	324	324	324	95	95	95
61.11	11.60	3.20	320	320	320	320	94	94	94
63.88	11.40	3.20	315	315	315	315	92	92	92
66.66	10.15	3.20	280	280	280	280	82	82	82
69.44	9.75	3.20	269	269	269	269	79	79	79
72.22	6.80	3.20	188	188	188	188	55	55	55
75.00	5.75	3.20	159	159	159	159	47	47	47
77.77	5.50	3.20	152	152	152	152	44	44	44
80.55	4.10	3.20	113	113	113	113	*	*	*
83.33	3.50	3.20	97	97	97	97	*	*	*
86.11	0.0	3.20	0	0	0	0	0	0	0
Total							2882	3351.2	3626

Table - G
ARWAL S.H.P. ANNUAL ENERGY STATEMENT WITH ONE UNIT OF 250 KW.

Percentage Dependability	Discharge in cumecs	F.S.L. in Headrace channel	F.S.L. in Tailrace channel	Gross Head in metre	Power Potential in KW	Annual energy generation through unit no. 1 (250 KW)			Annual energy generation through unit no. 2 (250 KW)		
						Discharge through the unit	% of Design discharge	Annual energy generation x 10 ³ Kwh	Discharge through the unit	% of Design discharge	Annual energy generation x 10 ³ Kwh
02.77	30.05	76.416	72.437	3.98	841	9.06	100	73.36	9.06	100	73.36
05.55	29.00	76.336	72.437	3.90	807	9.06	100	73.36	9.06	100	73.36
08.33	28.60	76.316	72.437	3.88	790	9.06	100	73.36	9.06	100	73.36
11.11	27.95	76.276	72.437	3.81	772	9.06	100	73.36	9.06	100	73.36
13.88	26.95	76.216	72.437	3.78	744	9.06	100	73.36	9.06	100	73.36
16.66	26.25	76.176	72.437	3.74	725	9.06	100	73.36	9.06	100	73.36
19.44	25.10	76.106	72.437	3.62	693	9.06	100	73.36	9.06	100	73.36
22.22	24.85	76.086	72.437	3.65	686	9.06	100	73.36	9.06	100	73.36
25.00	23.15	75.976	72.437	3.54	639	9.06	100	73.36	9.06	100	73.36
27.77	22.00	75.906	72.437	3.42	607	9.06	100	73.36	9.06	100	73.36
30.55	21.80	75.886	72.437	3.45	602	9.06	100	73.36	9.06	100	73.36
33.33	20.25	75.786	72.437	3.35	559	9.06	100	73.36	9.06	100	73.36
36.11	19.20	75.716	72.437	3.28	530	9.06	100	73.36	9.06	100	73.36
38.88	18.95	75.696	72.437	3.26	523	9.06	100	73.36	9.06	100	73.36
41.66	18.90	75.686	72.437	3.25	522	9.06	100	73.36	9.06	100	73.36
44.44	18.85	75.686	72.437	3.25	520	9.06	100	73.36	9.06	100	73.36
47.22	14.15	75.336	72.136	3.22	391	9.06	100	73.36	5.09	56.18	41.38
50.00	13.25	75.226	72.026	3.20	366	9.06	100	73.36	4.19	46.25	34.04
52.77	12.45	75.196	72.996	3.20	345	9.06	100	73.36	3.39	37.42	27.88
55.55	12.10	75.166	71.966	3.20	334	9.06	100	73.36	3.04	33.55	24.65
58.33	11.75	75.136	71.936	3.20	324	9.06	100	73.36	2.69	29.70	*
61.11	11.60	75.126	71.926	3.20	320	9.06	100	73.36	2.54	28.03	*
63.88	11.40	75.106	71.906	3.20	315	9.06	100	73.36	2.34	25.83	*
66.66	10.15	74.996	71.796	3.20	283	9.06	100	73.36	1.09	12.03	*
69.44	9.75	74.956	71.756	3.20	269	9.06	100	73.36	0.69	7.61	*
72.22	6.80	74.666	71.466	3.20	188	6.80	75.05	55.17	-	-	-
75.00	5.75	74.546	71.346	3.20	159	5.75	63.46	46.66	-	-	-
77.77	5.50	74.516	71.316	3.20	152	5.50	60.70	44.60	-	-	-
80.55	4.10	74.346	71.146	3.20	113	4.10	45.25	33.16	-	-	-
83.33	3.50	74.266	71.060	3.20	97	3.50	38.63	28.46	-	-	-
86.11	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0	0.0
Total						2042.05			1301.71		

Total of two units - 3343.76 x 10³ Kwh

Table - H
ANNUAL ENERGY STATEMENT WITH TWO UNIT OF 500KW.

[illegible]

Note :

1	Installed capacity	1 X 500 kw	12	Full supply level of headrace channel near power house zone	75.637 M above M.S.L.
2	Design discharge	18.12 CUMECS	13	Bed level in tailrace channel	70.506 M above M.S.L.
3	Head	3.20 Meter	14	Full supply level in tailrace channel	72.437 M above M.S.L.
4	Bed slope	1 in 3500	15	Overall machine efficiency	88 %
5	Bed width	4.34 M	16	Plant load factor	50 %
6	Full supply depth	1.931 M	17	Annual utilisation period	67 %
7	Side slope	1.5 : 1	18	Section of Power channel & Tailrace channel	Same
8	Off-take point	190 M from fall	19	Minimum loading of machine	30 %
9	Bed level of headrace channel	73.76 above M.S.L.	20	Energy calculation below 30% of minimum loading has not been considered and marked 'ASTERISK' *	
10	Full supply level of the headrace channel	75.691 M above M.S.L.			
11	Bed level of headrace near power house	73.706 M above M.S.L.			

8.1.5.5 Having taken into consideration the above factors, it is proposed to install one unit of 500 kw capacity at this S.H.P.

8.1.5.6 The C.E.A. guidelines regarding standardisation of unit size states as under :

"Turbines: Various types of turbines to suit the combination of head and output have been developed in the world. In India, Pelton, Turgo-Impulse, Francies, Kaplan and Propeller type of turbines have been developed to cover head ranges between small and high heads. For very small head also, the know-how is available in the country with the already established firms. Other firms, both in private as well as public sector, have also shown interest in starting the manufacture of turbines for micro/mini/small hydro installation.

In the interest of standardisation, it is recommended that overall capacities of the unit may be chosen from the following :

10KW, 25KW, 50KW, 200KW, 250KW, 350KW, 500KW, 750KW, 1000KW, 1500KW, 2000KW, 2500KW, 3000KW, 3500KW, 4000KW, 4500KW and 5000KW'.

According to Table -'F' the Installed Capacity comes to 500kw, which has been envisaged. The canal remain closed under planned shut down for 3/4 months. The maintenance of Turbine can be planned during the period. In view of these considerations installation of two units each of 500kw capacity is justified and therefore, has been adopted for the SHP.

8.1.5.7 It has been envisaged to consider the following design data so as to have the maximum power from the proposed unit.

- i. The turbine will have capacity for the maximum discharge of 18.12 cumecs and the constant rated head would be 3.20M.

- ii Annual energy generated per annum works out to 3351.2×10^3 Kwh against installed capacity of two units each of 500kw capacity.

8.1.5.8 Load factor

It has been envisaged that power house would run for 67% of the period in a year at 50% plant load factor. The system would be connected with the nearest grid near Arwal. As per present power scenario near the project site there is acute shortage of power in the vicinity and therefore this S.H.P. will run at higher load factor but for all calculation 50% load factor has been adopted.

CHAPTER -IX

PLANT LAYOUT & CIVIL STRUCTURE

9.1 The canal at the Arwal S.H.P. site located at 68.40 km of Patna Branch Canal, has two components :

(i) Canal Lock System (ii) Fall System in the Canal.

Function of the two system differ in nature apart from keeping the canal in running condition.

9.1.1 Canal Lock System :

This consists of a huge brick work structure accompanied with massive two numbers of wooden gate of U/S and D/S side in the canal. The use of the canal was limited to the navigation purpose only i.e. to allow the passage of boats/ Steamers. In the modern scientific age this has been abandoned and all structures and wooden gates are in dilapidated condition.

9.1.2 Canal Fall System :

Fall of suitable height is functioning in this portion keeping the water level maintained according to the need of irrigating the field. The fall is also of huge brick work and steel channels are fixed, where wooden planks are placed as per requirement to control the water level. Excess water is allowed to spill over through this fall for the use of the down stream of the canal.

9.2 Utilisation of the lock system canal was considered for installation of power House at this site in view of economy but this proposal has been abandoned owing to the following facts :-

- a. Modernisation of the Sone Canal System which is in offing.
- b. Seepage water would be more in view of the hydraulic gradient as the power house will be very close to the fall system.
- C. Legal Aspect. Some legislation will be required.

9.3 It has been contemplated to install Power House on the bypass channel. The bypass channel would emanate from the distance of 190M on U/S of the fall and meet on the D/S of the fall through a Tailrace Channel.

9.4 **POWER HOUSE**

9.4.1 The locations of all the components of the Power-House is so selected that it requires about 100M wide strip of land in a length of 400M adjoining the existing canal. The required area of land is available, which belongs to the Irrigation Department.

9.4.2 Power House consists of three essential constituents namely- (i) Machine Hall or Unit bay; (ii) Control room; (iii) Erection bay and Auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. The size of Power House building will be 10m x 8m. The ceiling height of the building will be 8.0M in order to facilitate the handling of equipments. Control room, Battery Room, Office and Stores have been located separately.

9.4.3 The Power House building will be constructed in brick masonry with R.C.C. stiffener provided at suitable intervals. The roof will consist of precast R.C. slab with false ceiling on steel trusses. These trusses would rest on the R.C.C stiffeners. R.C.C. lintels and bands would be provided at suitable interval so as to strengthen the whole structure. Adequate numbers of doors and windows will be provided for natural lighting and ventilation. R.C.C. raft foundation has been contemplated for installing the machine, equipment. Trash racks will be provided at the up stream of turbines to prevent the entry of floating materials into the machine.

The Power House building would be provided with lightening arrester suitably alongwith the grounding cables under the foundation of the machine for grounding the lightening surges.

9.4.4 Power House is envisaged to be located on the power channel itself. Syphon Intake Semi-Kaplan Vertical Turbine has been proposed. As such, provision

of fore bay or penstock is not necessary. Water would enter into the Turbine through Syphonic action.

9.5 Tailrace Channel

Tailrace Channel would be lined and has been designed accordingly. Discharge r would remain same as in the case of power channel leading to the down stream of the fall in the main canal.

9.6 Modification work on existing canal fall site

- a. The existing fall in the main canal will be restructured & strengthened.
- b. Bridge: There is a bridge over the main canal and in continuation to this bridge one D.L.R. road bridge has been envisaged. This would facilitate the movement of general traffic over the power channel. Handrails would be provided on the D.L.R. (Refer Para 8.1.3.4.)
- c. By the side of the existing main canal, Irrigation Channel is flowing and the position of this would be shifted. This channel would be constructed adjoining the power channel embankment so as to maintain the irrigation potentiality as it is.
- d. Approach road on both sides will be improved suitably so as to maintain the smooth movement of traffic.
- e. Provision of colony has been planned. This would accommodate the required staff for operation and maintenance. Land required for the Colony is kept as 4000 M².

CHAPTER –X

CONCEPTUAL DESIGN OF CIVIL STRUCTURE

10.1 **Design of Civil Works**

10.2 The Arwal S.H.P. consists of the following major structures :

- i. Head race channel & ESCAPE
- ii. Power House
- iii. Tailrace channel
- iv. Modification work on existing canal fall.
- v. Approach road, bridges and irrigation channel.

10.3 The geometric design of the project has been envisaged in such a way that the power potential of the fall is utilised in efficient and systematic way. The layout of power house and its allied components is proposed to be located in a bypass channel. The head race bypass channel will start from the upstream of the existing fall of the main canal and will be concrete lined. The downstream channel called tailrace channel will lead the water into the main channel down - stream of the existing fall. The tailrace channel will be also lined.

10.3.1 The Power House will be equipped with trash rack arrangement to arrest logs etc. At the time of emergency tripping of the turbine, vacuum will be broken and thus water flow to the turbine will stop. There will be no need of a gate in the power channel at entry of the power house and in the tailrace.

The headrace channel and tailrace channel, though located in the bypass channel, have been kept close to the main canal in view of economy as in this case length of the head race channel and tail race channel will be smaller.

10.3.2 **ESCAPE**

In case of sudden tripping of the generating unit, due to surge action the level of water in the power channel as well as in the canal will rise and may also damage its banks. For this Freeboard of 1.30M has been provided in the power channel. The normal practice would have been to remove planks from

the structure at the fall by electrical device in such circumstances but there may be a case when there will not be power available after tripping of the machine and it will take time to run the diesel generating sets available in the power station. It is, therefore proposed to provide an ESCAPE made of concrete & masonry in the power channel upstream of the powerhouse and the excess water will be spilled through the ESCAPE and drained to the tailrace channel through hume pipes. A lump sum cost has been provided in the estimate, but detail design and engineering will be done at the time of execution of the project.

10.4 **Design of Headrace Channel**

Power channel will be concrete lined and of trapezoidal section.

10.4.1 As per power potential the design discharge is 18.12 cumecs adopted for this power station. Design is elucidated as under :

Discharge = 18.12 cumecs

$\eta = 0.018$

Side slope = 1 : 1.5

Bed slope = 1 in 3500

Limiting velocity $V = \frac{Q}{(\frac{Q}{4 K_1 K^2})^{0.25}}$

Where $K = \left(\frac{n}{\sqrt{s}} \right)^{3/2}$ and $K_1 = (2\sqrt{S^2+1}-s)$

$K = \frac{(0.018)^{3/2}}{\sqrt{1/3500}} = \frac{(0.018)^{3/2}}{0.0169} = 1.10$

$K_1 = (2\sqrt{S^2+1}-s) = (2\sqrt{0.67^2+1}-0.67) = 1.737$

$V = \left(\frac{18.12}{4 \times 1.73 \times 1.10^2} \right)^{0.25} = (2.164)^{0.25} = 1.213 \text{ M/Sec.}$

Adopting Trapezoidal section and for side slope 1.5:1

$\text{Cot } \theta = 3/2$

$\therefore \theta = \text{Cot}^{-1} 3/2 = 34.1^\circ = 0.59 \text{ radians}$

$A = BD + D^2 \theta + D^2 \text{Cot } \theta$

$$P = B + 2D\theta + 2D \cot \theta$$

$$\therefore R = \frac{BD + D^2 \theta + D^2 \cot \theta}{B + 2D\theta + 2D \cot \theta} \quad \text{Substituting the value of } \theta \text{ and } \cot \theta$$

$$\therefore R = \frac{BD + 2.09 D^2}{B + 4.18 D}$$

$$\text{Let } V = 1.12 \text{ M/Sec}$$

$$V = \frac{1}{\eta} R^{2/3} S^{1/2}$$

$$R^{2/3} \frac{1.12 \times 0.018}{0.0169} = 1.193$$

$$R = 1.303$$

$$A = 18.12 / 1.12 = 16.18$$

$$P = \frac{16.18}{1.303} = 12.41$$

$$A = BD + 2.09 D^2 = 16.18$$

$$P = B + 4.18 D = 12.41$$

$$B = 12.41 - 4.18D$$

$$D (12.41 - 4.18D) + 2.09D^2 = 16.18$$

$$12.41D - 4.18D^2 + 2.09D^2 - 16.18 = 0$$

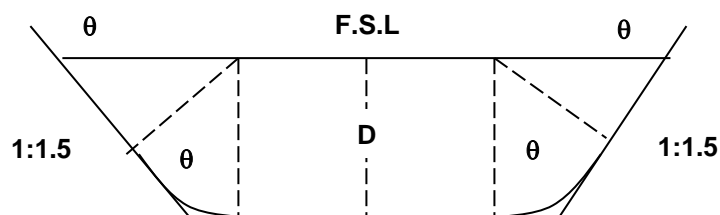
$$\text{or } D^2 - 5.94D + 7.74 = 0$$

$$D = \frac{5.94 \pm \sqrt{5.94^2 - 4 \times 7.74}}{2}$$

$$= 1.931 \text{ or } 4.01$$

$$\text{Adopt } D = 1.931 \text{ Metre}$$

$$\& \text{ Bed width } B = 4.34 \text{ M}$$



Tailrace channel- the same section will be adopted for tailrace channel.

N.B. - Detail design & drawing of "ESCAPE" would be done at the time of execution of the project.

10.5 **Head Loss**

10.5.1 The Head Race and Tail Race channel will be open channel and of the same size. As per the design calculations made in para 10.4.1 the section of both head race and tailrace channels will be as follows:

Discharge	18.12 Cumecs
Bed width	4.34M
F.S.D.	1.93M
Bed slope	1 in 3500
Side slope	1.5:1.

10.5.2 The bed level and F.S.L. of Power channel at Intake point is 73.76M and 75.69M above M.S.L. The length of Headrace channel is 190 metres. With the design slope of the channel the loss in Head upto the entrance of Power station will be 0.054 metre and thus bed level and F.S.L. at the entrance of Power house zone is 73.706 M and 75.637 M above M.S.L. respectively.

As the same section of the channel has been adopted for Tailrace channel, the bed level and F.S.L. in Tailrace channel would be 70.506 M and 72.437M above M.S.L. Thus the available Head will be 3.20 metres.

10.5.3 There would, however, be minor Head loss at the entrance of runner blades of the Turbine, but the runner blades are adjustable so that the Turbine can operate over a wide range of flows while maintaining good efficiency and hence such minor head loss is not taken into consideration.

CHAPTER-11

TECHNICAL SPECIFICATION OF ELECTRICAL & MECHANICAL EQUIPMENT

11.1 Turbine

11.1.1 For a low head machine which is needed for this project, it is a general practice in India to use Horizontal 'S' Tubular Turbine due to easy maintenance and better efficiency for low head installation. This choice is limited upto runner dia upto 3 meters. For a runner dia above 3M Bulb type offers the most economic solution. As the runner dia in this case will be less than 3.00M, the first choice goes for Horizontal Tubular Turbine.

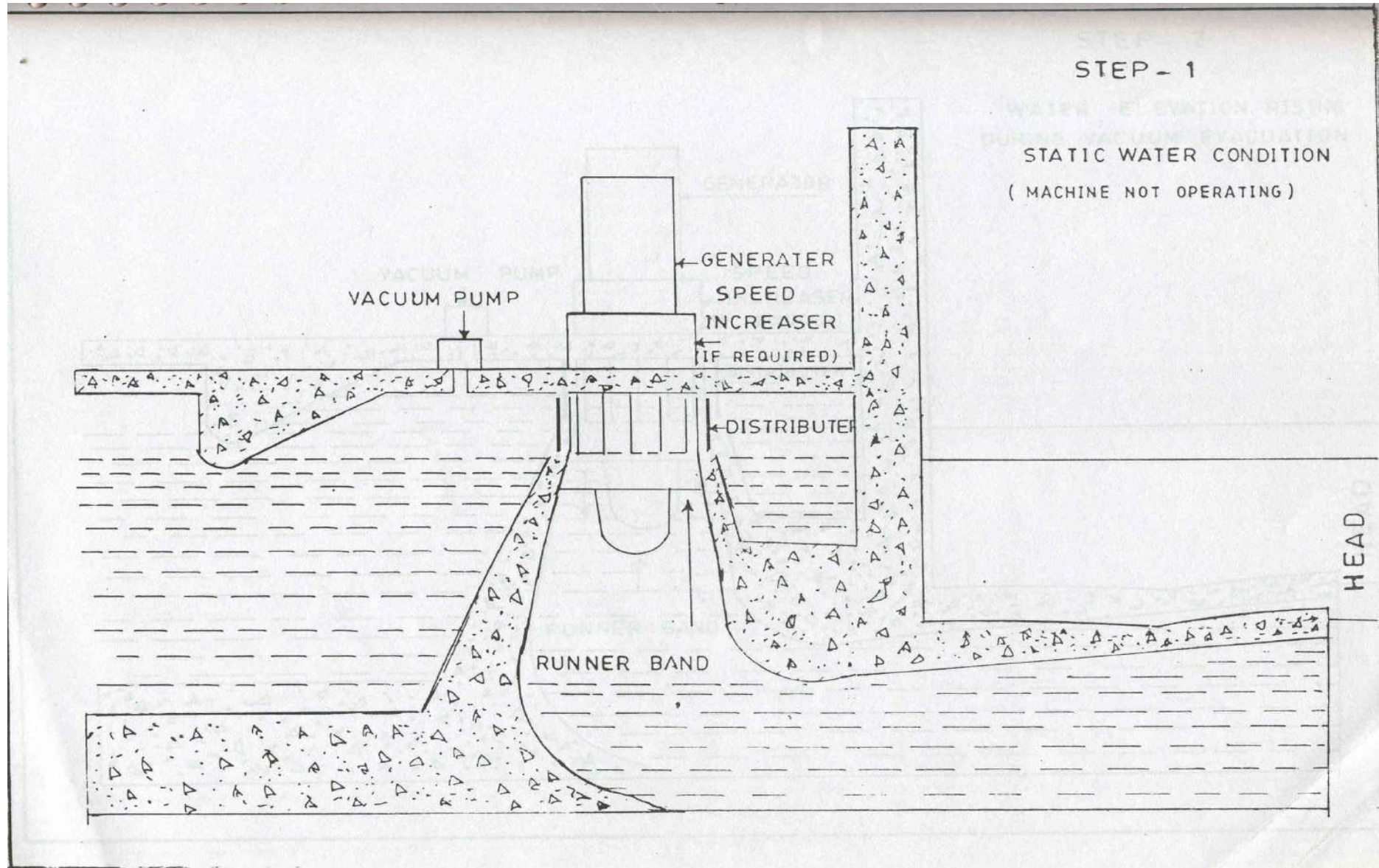
11.1.2 The Tubular Turbine is a slow speed machine and it generally requires a gearbox for speed increase in order to use a standard generator. Generally there is efficiency drop (1 to 2%) in the gear box. For Tubular Turbine there are four options i.e. Kaplan, Semi -Kaplan, Propeller with adjustable guide vanes, and Propeller type machine. In case of Propeller or Propeller Type Turbine, the efficiency range of operation is limited to 80% to 120% variation in head and 75% to 115% variation in discharge. In this particular case, the variation of head is negligible and there is only variation in discharge. The use of Propeller Turbine is, therefore, ruled out.

11.1.3 Kaplan Turbine has adjustable runner blades and guide vanes. In order to accommodate the runner blade adjustable mechanism in the runner home, the size of runner should be large enough. The Turbine is best suited where there is wide variation in head and/or discharge and its efficiency over a wide range of partial load is very good. Butterfly valve (BFV) for shut off purpose is not required in this type of turbine as the guide vanes themselves will close the turbine. The cost of this type of turbine is high.

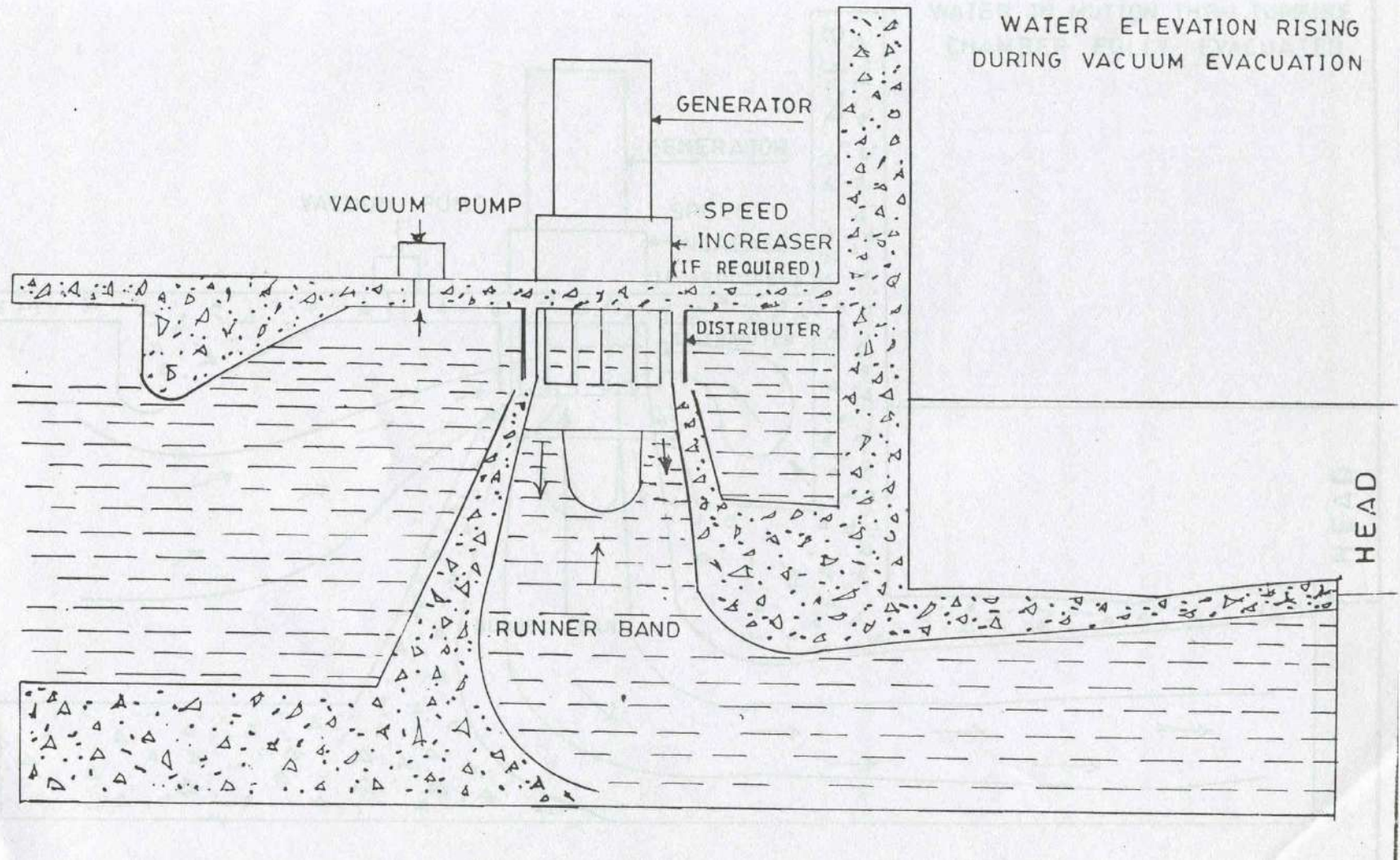
11.1.4 Semi - Kaplan turbine has fixed guide vanes and adjustable runner blades. The necessity of large dia runner to accommodate mechanism for adjustable runner blade remains the same as for Kaplan turbine. Butterfly valve is required for shut off purposes. This type of turbine is less complicated than full Kaplan turbine. The efficiency range of operation is limited compared to the

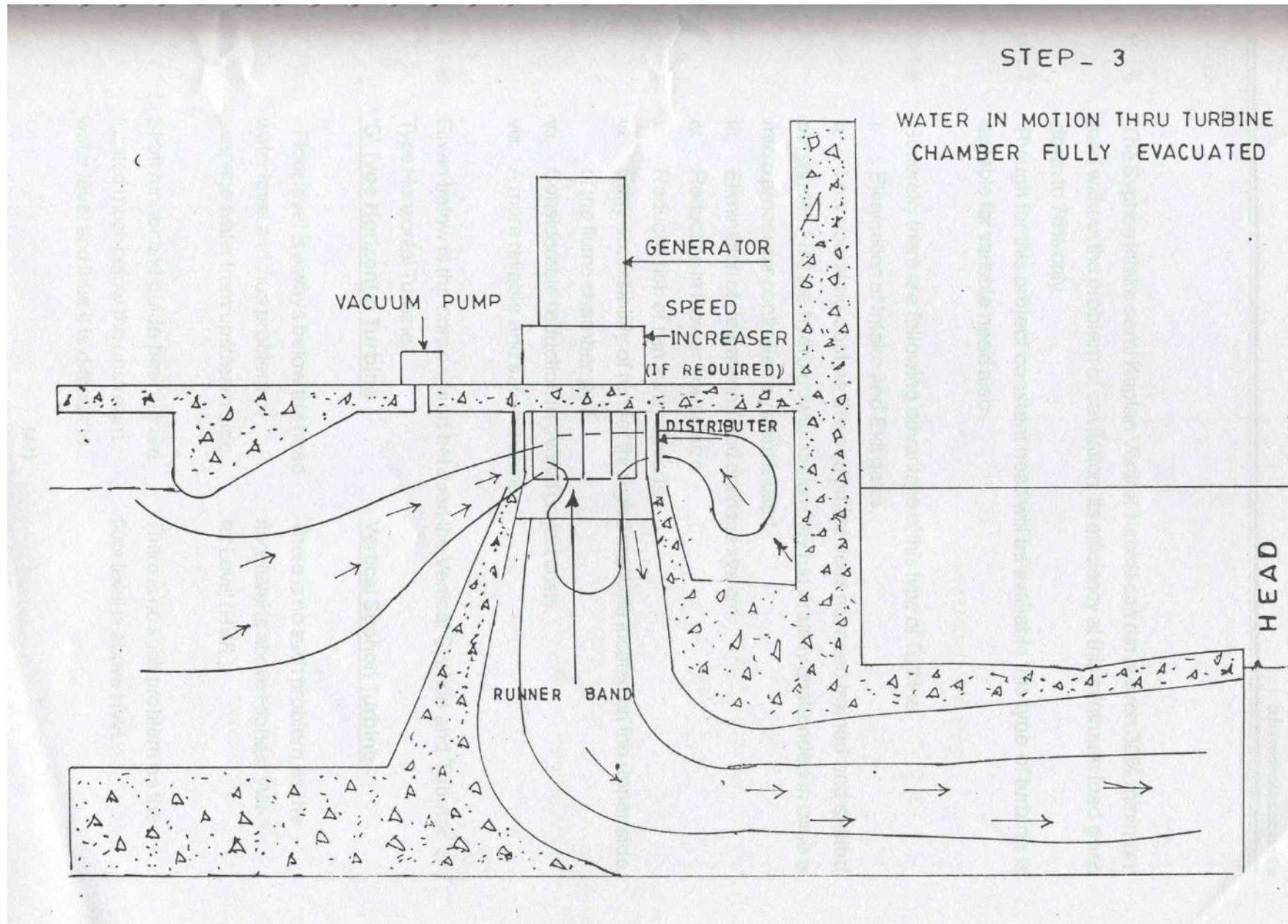
full Kaplan turbine. The cost of butterfly valve is however, considerable with the result that the overall cost of the machine sometimes becomes as high as that of Kaplan turbine which is more efficient over a wide range of operation than Semi – Kaplan turbine.

11.1.5 Now vertical semi- kaplan turbine with Syphon intake with adjustable runner blade and fixed guide vane are being very frequently used. Moveable runner blade is controlled by a hydraulic servomotor. The runner blades are adjusted to accommodate the variation in flow of water through the turbine and consequent control of load on the machine. This is achieved by movement of piston of runner servomotor. This also eliminates provision of intake/ draft tube gates. By adopting proper control of opening of runner blades the load on the machine will be adjusted such that the level of water in the upstream of the fall will remain undisturbed. In this case also a gear box is used between the turbine and generator for using standard generator and in this case also the efficiency comes down by 1 to 2% due to gear box. In this case the investment cost is also less as the cost of machine as well as the cost of civil works in construction of power station is less. As the name suggests, the Vertical Turbine with Syphon Intake operation on the Syphon Principle i.e. the intake flume chamber valve is closed and made water tight and vaccum is created by a pump which enables water to enter flume chamber and energise the runner. When the machine reaches synchronous speed this is synchronised with the grid like any conventional turbine. Shut down is brought about by following the reverse procedure i.e. by breaking vaccum. Since turbine operates on a Syphon Principle, it is not necessary to have Intake and Draft Tube gates thereby reducing the cost. The drawing showing Step –I, II & III fully explain how the machine operation is started by creating Syphon Intake.



STEP - 2





11.1.6 The Syphon Intake semi Kaplan Vertical Turbine can run at even 30% minimum load without the problem of cavitations. Its efficiency at this minimum load goes down to 76% only.

11.1.7 Though for this project constant head will be available this type of turbine is suitable for variable head also.

11.1.8 Generally there are following advantage of this type of Turbine.

- i. Elimination of Intake and Exit gates.
- ii. Low operating cost as the equipment does not need trained and skilled personnel. Also the hydro power station may run virtually unattended in case a micro processor controlled system is used.
- iii. Elimination of dewatering and drainage system.
- iv. Reduction in Power house size.
- v. Reduced risk of run away speeds
- vi. Easy accessibility of runner through a manhole located on the upper side of the flume chamber wall.
- vii. Considerable reduction in overall project costs.
- viii. A more reliable and safe machine.

11.1.9 Given below is the comparison between the Vertical Syphon and Tubular 'S' Type Horizontal Turbine.

'S' Type Horizontal Turbine	Vertical Syphon Turbine
Floor level is always below the head water level and thus problem of seepage water from upstream side	There is no such problem as the floor level is above Highest Water Level (HWL).
Shaft runner and guide bearing are located much below the upstream water level and thus it is difficult to approach the same as there will always be some leakage through Gates	There is no such problem as the floor level is above HWL

Dismantling and assembly of shaft is very cumbersome as well as time consuming. Long shaft lengths add to this problem	Dismantling of shaft and Reassembly is very simple and quick
There is always some leakage of water through the glands during running as well as standstill condition as it is continuously under pressure.	There is no such problem in case of Vertical Syphon Turbine.
Complete weight of runner and part of shaft comes on guide bearings therefore, its design and selection is very critical. It has been realised that there is a greater tendency of failure in the main guide bearing in horizontal shaft turbine due to the entry of silt in the bearings.	This type of problem is not associated with vertical type arrangement.
The replacement of guide bearing is quite trouble some as it is located inside the tubular casing and it needs special supporting fixtures for shaft before replacement.	There is no such problem as the guide bearing is approachable from the power house floor and is made in two split parts.
During floods powerhouse will be completely submerged.	In such case power house floor is always above HWL, hence the equipments are out of water.
It is difficult to stop the turbine rotation if gates have been stuck or seals have been damaged or silt has been accumulated on the sill beam. In such case the turbine continues to spin at high speed which could be extremely damaging to the turbine rotating parts.	Such problems are never faced as the machine can be brought to stand still condition by just breaking the syphon.
The size of power house is large	The powerhouse is compact in size
Intake and draft tube gates are essential	No intake and draft tube gates required.
The cost of civil works are high	The cost of civil works is low.

More maintenance required as 'S' type turbines are more prone to faults.	Low maintenance required and is less prone to faults.
Erection of T.G. equipment requires more time after civil works completion.	The T.G. equipment can be installed in a very short time after completion of civil works.
Turbines are mostly used for heads above 3M upto 20M.	Turbines are ideally suited for heads between 2M and 5M because of syphon system adaptability.
'S' type turbine requires minimum straight length of intake channel leading to higher civil cost.	No such constraint of length of intake channel, thus reducing civil costs and allowing for cost effective layout.

As the machine size has been decided to be 500KW in para 8.1.5.4 of this DPR it is recommended to have Two Units each of 500 KW vertical semi -Kaplan turbine with Syphon intake for this Power Station.

11.1.10 The guidelines of C.E.A. for preparation of D.P.R. does not take into account this type of turbine when the guideline was prepared in the year 1982 this technology had not been developed. Such turbines are in use in Punjab, Andhra Pradesh and in Orissa. This type of turbine is most economical and suitable for installation in canal fall sites. It is, therefore, recommended to have Vertical semi-Kaplan Turbines with Syphon Intake for this power station.

11.1.11 **TURBINE COMPONENTS**

Vertical Semi -Kaplan turbine with Syphone intake will generally consist of the following : -

- Runner
- Shaft
- Head cover
- Discharge Ring
- Distributor
- Draft tube
- Chassis
- Coupling between turbine and gear box
- Coupling between gearbox and generator

- Servomotor for runner blades
- Hydraulic pumping unit
- Grease Pump / cooling Water System
- Vaccum Pump with Dewatering Valve
- Electronic Governor

Short description of important parts of the Turbine is given below:

Runner

The turbine runner will be fitted with 3/4 adjustable blades in stainless steel mounted on a steel hub.

The runner blades will be adjustable so that the turbine can operate over a wide range of flows while maintaining good efficiency.

The blade motion mechanism will be located inside the steel hub.

The blade bearings will generally be made of 'Orkot', a self lubricating material with high mechanical resistance.

Seals will prevent water from entering the hub area where the blade serve mechanism is located.

All the parts -blades, hub, etc. are geometrically profiled, shaped and surface finished.

Prior to shipping the turbine, the runner blades will be carefully balanced.

TURBINE SHAFT

The turbine shaft is fitted with flanges for coupling the runner and speed increaser. This shaft is bored in order to accommodate the blade control rod for adjustability.

The shaft bearing is located inside the head cover just above the runner. It is antifricition type, continuously lubricated by an external grease / water pump. The bearing material shall be THORDON / WHITE METAL and the bearing

housing is in two halves so that it can be installed or removed without having to remove the shaft itself. Sealing is provided by a Teflon packing located above the shaft bearing; This concept allows for continuous lubrication of the seal of avoid any manual maintenance.

DISCHARGE RING

The Discharge ring will be fabricated from mild steel and will be machined in order to keep the gap between the blades and Discharge ring as narrow as possible. Its semi -hemispheric profile provides a maximum efficiency through the turbine runner.

The discharge ring is embedded in the concrete since it does not need to be disassembled for maintenance purpose.

HEAD COVER

The head -cover has two functions.

-Hydraulically : the head -cover assists the hydraulic shape of the distributor and provides the seal for the spiral casing.

-Mechanically : the head -cover supports the shaft bearing and shaft seal, and therefore, the runner. It is bolted to the distributor and can be removed easily for access to the runner.

DISTRIBUTOR

-Distributor will be fitted with fixed wicket gate which direct and orient the water flow towards the runner.

-All the surface of the wicket gates will be smooth, free from any defect and each wicket gate is partially machined on each side.

SPEED INCREASER

The speed increaser allows for the connection of the runner and generator. The speed increaser obtains a higher speed on the exit shaft. The multiplication ratio is calculated in such a way as to obtain the high speed shaft a speed close to the generators speed.

DRAFT TUBE

The draft tube shall be made of mild steel.

11.1.12 DEWATERING AND DRAINAGE SYSTEM

In principle dewatering system is not required since all mechanical components are out of water when the machine has stopped. It is not necessary to dry the flume chamber or the draft tube.

11.1.13 HYDRAULIC PUMPING UNIT

The hydraulic pumping unit consists of an oil reservoir and the pump which command and control elements of the hydraulic circuit the pump feed the servo motor circuit.

The Pumping unit includes the following equipments:

- One hydraulic mechanical pump.
- Two hydraulic electro pumps (one main & one standby).
- Electro valve to open and close the blades and guide Vanes.
- Pressure control valves.
- Filters
- Flow reducers to set the opening & closing time.
- Monometers.
- Oil level control switch.
- Bearing lubrication system.
- .Misc. accessories.

11.1.14 TURBINE CONTROLS :

The Turbine will have the following controls :

<u>Sl .No.</u>	<u>Description</u>	
a)	Gate limit control	
b)	Auto manual selection switch	
c)	Speed level controller	Electronic
d)	Manual turbine gate control	Governor built in feature
e)	Turbine bladed lock	

- f) Water Level control
- g) Over speed control
- h) Control for oil pump motor
- i) Turbine shut down control

11.1.15 **TURBINE SAFETY DEVICES**

The Turbine will have the following Safety Devices :

- a. Turbine Guide Bearing Cooling water flow or Lube Oil flow
- b. Governor oil pressure low
- c. Unit over speed shut down
- d. Pressure tank oil pressure failure
- e. Manual emergency shut down
- f. Gear box bearing temp, high
- g. Gear box lube oil pressure low
- h. Turbine guide / trust bearing temperature

11.1.16 **TURBINE INDICATION / RECORDING INSTRUMENTS**

The Turbine will generally have the following Indicating / Recording Instruments:

SL. No.	Description
a.	Pressure of shaft seal cooling water
b.	Gate limit and gate position indicator
c.	Unit speed indication
d.	Over speed indicator
e.	Speed level setting indicator
f.	Speed droop -setting indicator
g.	Upstream / downstream water level indicator
h.	Unit output meter for power and energy
i.	Unit voltmeter
j.	Unit ammeter
k.	Pressure of regulating oil pressure system
l.	Level of oil in pump tank
m.	Pressure of standby oil pump

n.	Standby oil pump in operation
o.	Turbine bearing temp
p.	Gear box bearing temp
q.	Indication of runner blade.

11.2 **GENERATOR**

11.2.1 Where Electricity Grid is strong and stable it has become a practice to use induction generator as this is cheaper in construction, easy for operation as well as this eliminates the use of Governor and excitation system which considerably reduces the cost. In the case of this S.H.P., though the power is proposed to be fed to 33 / 11 KV Sub- station at Arwal of the Bihar State Electricity Board, the grid is not stable and very often there is no power available in the grid in which case machine will be idle. Hence, even though induction generator would be a cheaper proposition, the same cannot be used in this case. Naturally choice, therefore, goes to Synchronous Generator.

11.2.2 It is proposed to install two Synchronous Generators each of 500KW capacity, three phase 50 C.P.S., power factor 0.9. The Speed of the Generator will depend on the manufacturer as it will be depending on the speed of the Turbine and the speed of the Speed -Incraser. For this small size generator voltage of 415 V is economical and hence, generation voltage will be 415 V only. Moreover, this eliminates use of power - transformer for auxiliary consumption. The excitation system will be brush less using static excitation system with thyrister. The Synchronous generator will be able to operate in isolation as well as in parallel with the grid. For this, synchronising equipment will also be provided. The generator will be according to International standards with reference to special customer's requirements and latest I.E.C.C. recommendations. It shall be of vertical type with I.P-23 / IC-01 degree of protection with its own air ventilation. The windings shall be insulated with Class 'F' insulation with temperature rise limited to class 'B' insulation. The Generator bearings will be pedestal mounted self oil

lubricated sleeve bearing as sleeve bearings life will be more than 1,00,000 working hours. The bearing will be adequately insulated to prevent any harmful circulating current. The bearings shall also be suitable to withstand the runaway speed upto 15 minutes. The generator shall meet the requirements of B.I.S. - 4722 / 92 and shall deliver rated output with temperature rise limited to 80°C over an ambient of 50°C and shall also be suitable to deliver 10% more power than the rated output continuously with temperature rise limited to 100°C on ambient of 40°C by E.T.D.

11.2.3 **COOLING OF THE MACHINE**

The Generator shall be enclosed in screen protected drip proof enclosure i.e. (IP -23 / IC -01). The Generator shall be air cooled.

11.2.4 Each Generator will generally consist of the following parts :

- Generator stator complete with frame, sole plates, stator core, winding with accessories and terminals.
- Generator rotor, complete with shaft, spider rim, pole with windings and accessories.
- One set bearing
- One set of anti condensation spare heaters
- One set air guides
- One set brush less excitation unit with AVR
- One number base plate to mount the generator
- One set foundation bolts with nuts
- One set stator winding RTDs with terminals brought out in separate RTD terminal box.
- One set dial temperature with electrical contacts for alarm and trip for bearing
- One number RTD / BTD per bearing for temperature indication of bearing oil bath.

11.3. The Triveni Engineering and Industries Limited, New Delhi, who rare manufacturers of this type of Turbine have, after considering all the aspects

including specific speed of design to be adopted for this project, suggested the following parameters of Turbine, Speed Increaser and Generator.

Characteristic of the Equipment

A. Turbine (2 units of 500 KW each)

Type -Vertical Semi Kaplan Turbine with Syphone Intake.

Technical characteristics of each Turbine

Rated net head	3.20 metres
Design flow (Discharge)	18.12 cumecs
Rated Power	500 KW (at generator terminal)
Runner diameter	2350mm (approx.)
Runner Speed	129 R.P.M

B. **Speed Increaser**

The Speed Increaser increases the speed from the turbine rotation speed to match the Generator speed.

Configuration	Vertical
Turbine	129 R.P.M
Generator speed	1000 R.P.M
Speed Increaser ratio.	7.75

C. **Generator**

The Generator shall be synchronous type with the following characteristics:

Capacity	500 KW
Voltage output	415 V
Rated speed	1000 R.P.M
Frequency	50 H _z
Insulation.	Class "F"
Configuration	Vertical

N.B.- The above parameters will be reviewed at the time of detailed design & Engineering.

11.4 LT SWITCHBOARD AND GENERATOR CONTROL PANAL

The LT Switchboard will be sheet steel enclosed cubicle of 3mm sheet for doors and 2mm sheet for rest of the panel, free standing, floor mounting type dust and vermin proof for operation at 415V, 3 phase, 4 wire, 50 Hz AC having aluminium busbar of rating 800A and neutral of 400A (half the rating) generally comprising of the following equipment / accessories duly fitted and wired as required.

Qty.	DESCRIPTION
1 No	Incoming panel with generator & turbine control panel each equipped with :
1	Triple pole electrically operated draw out type air circuit breaker of 600A, 30KA rating at service voltage 415V having adequate breaking capacity with main arcing contacts, archutes, deion grids with mechanical ON / OF indicator. The breaker shall be provided with instantaneous magnetic release thermal overload and shunt trip coil suitable for 24V DC and provision for tripping the breaker from remote push button or from relay contacts
1	Generator neutral isolating switch of rating 500A (TP) with all poles shorted mounted at rear of panel with pad -lock arrangements.
1	MISC, ammeter range 0 - 800A flush mounting type with 3 way volt-meter selector switch having off position
1	Power factor meter range 0.5- 1 -0.5 flush mounting type.
1	Reed type frequency meter range 45 -50 -55 HZ flush mounting type
1	KW meter range 0 -600 KW flush mounting type size suitable for 3 phase, 3 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system
1	KVAR meter flush mounting type suitable for 3 phase, 4 wire system.
1	Triple pole over current relay (51 V)
1	Negative phase sequence relay (46)
1	Over voltage relay (59)
1	Under voltage relay (27)
1	Check synchronising relay (25)
1	Generator differential relay (87G)
1	Stator Earth fault relay (64 G)
1	Loss of excitation relay (400)
1	Reverse power relay (32P)
1	Surge diverter.

11.4.1 **CONTROLS**

The following controls will be provided:

a.	Emergency off push button (mechanical)
b.	Generator anti -condensation heater ON & OFF switch
c.	Panel heater ON and OFF switch
d.	Alarm acknowledge push button
e.	Healthy trip circuit test push button
f.	Reset push button
g.	Generator low oil pressure
h.	Breaker ON / OFF push buttons
i.	Voltage rise / lower spring return switch.

11.4.2 **INDICATING LAMPS**

The following indications will be provided on the control phase:

a.	Incoming circuit breaker on
b.	Incoming circuit breaker off
c.	Auto trip Electrical fault
d.	Auto trip Mechanical fault
e.	Governor low oil pressure trip contact bypass
f.	healthy trip circuit
g.	DCC supply fail
h.	Turbine bearing temperature high
i.	Generator anti -condensation heater ON

11.4.3 The Switchboard will have following provisions:

QUANTITY	DESCRIPTION
1	8 Point micro processor based temperature scanner for generator stator winding and generator bearing temperature with alarm and trip setting
1	Panel heater with suitable thermostat
6	Single core current transformer ratio 650 / 5A class of accuracy PS for generator differential relay

3	Double core current transformer ratio 500 / 5 / 5A Core -1 : Accuracy class 5 P 10 and burden 15 VA for protection Core- 2: Accuracy class 1.0 and burden 15 VA for metering
1	Single core current transformer ratio 650 / 1A accuracy class 1.0 and burden 10 VA for droop measurement.
1	Voltage transformer ratio 415 / $\sqrt{3}$ / 110 / $\sqrt{3}$ V. burden 100 VA, accuracy class 1.0 for protection
1	16 Window annunciation shall be provided for following fault annunciation <ul style="list-style-type: none"> a. Differential relay trip b. Over current relay trip c. Reverse power trip d. Over voltage relay trip e. Negative phase sequence relay trip f. Generator bearing temp. trip g. Generator stator winding trip h. Over speed trip i. Governor oil pressure low j. Emergency shut down k. Spare window 5 nos.

11.4.4. The following provisions will also be made in the Switch board Panel :

QUANTITY	DESCRIPTION
20	Auxiliary relays for annunciation and tripping circuits.
3	Surge diverters on main busbar
1	Over speed switch assembly and indicator
1	Automatic Voltage Regulator (AVR)
1	Automatic Power Factor Regulator
1	Voltage adjust motorised potentiometer
1	Auto manual changeover switch
1	Contractors

1	Rectifier Assembly
1	Motorised Variac
1	3 -Winding transformers

11.4.5 1 No. 415V Transformer Control Panel equipped with

1	Air Circuit breaker 600A, 30 KA, 415 V.
1	MISC ammeter range 0 - 600 A, flush mounting type, with 3 way selector switch having off position.
1	KW meter range 0 - 600 KW, flush mounting type, suitable for 3 phase 4 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
3	Double core current transformer ratio 500 / 5 / 5 A, burden 15 VA accuracy class 1.0 for metering and 5P 10 for protection.

QUANTITY	DESCRIPTION
1	Feeder ON indicating lamp.
1	Feeder OFF indicating lamp.
1	Emergency OFF push button (Mechanical).
1	Panel heater ON & OFF switch.
1	Panel inside illuminating lamp with switch.
1	Breaker ON & OFF push buttons.

11.4.6 STATION AUXILIARY PANEL

This will generally consist of the following provisions –

1	Switch fuse unit of rating 100A
2	Emergency off push button (Mechanical)
6	Miniature circuit breaker rating TPN 63A, 415V.
8	Miniature circuit breaker rating TPN 20A, 415V.
10	Miniature circuit breaker rating SPN 16A, 415V.
18	Indicating lamps
1	Panel heater with thermostat.
1	Panel inside illuminating lamp.

1	MISC Ammeter with range 0 250A, flush mounting with selector switch.
1	KWH meter, flush mounting suitable for 3 phase 4 wire system.
2	Breaker ON/OFF push buttons
1	Earth fault relay
10	Miniature circuit breaker rating TPS 32A.415V.
3	Current transformer ratio 600/5A, class 1.0 burden 5VA for ammeter
4	Current transformer 600/5A class 5P10, burden 10VA for E/F placed in neutral line.

11.4.7 **SYNCHRONISING BRACKET**

The Synchronising Bracket will be mounted on left hand side of the panel and shall be of swinging type and will have following provision.

QUANTITY	DESCRIPTION
1	Synchroscope
1	Double voltmeter
1	Double frequency meter
1	Synchronising check relay (25) with guard relay
1	Synchronising selector switch
1 set	Auxiliary relays
1	1 Synchronising lamp

11.5 **POWER EVACUATION SYSTEM**

11.5.1 As B.H.P.C: is not distributing power under licence from the Government and is mainly responsible for development for Hydel Power in the state, the power generated from this Power Station will be supplied to the grid of the Bihar State Electricity Board, who are responsible for power distribution in the State. The nearest 132/33/11 KV Sub-Station is at Arwal it self and therefore, single circuit 11 KV line will be constructed between this S.H.P. and the Arwal 33/11 KV Sub-Station of B.S.E.B. The length of the line will be 3 KM and will be constructed on PSC 200KG Pole with ACSR weasel conductor.

- 11.5.2 As the generator voltage is 0.415 KV power transformer of 650 KVA capacity, 0.415/11 KV, 3 phase, 50 cps will be installed in the switchyard. For control of this transformer and the 11 KV transmission line the following provisions will be made in the switchyard.

SI No.	Description	Quantity
1	12 KV 500A, 30 KA Outdoor Vacuum Circuit breaker	1 No.
2	500 Amps, 11 KV Air Break Isolating Switches with Earth Switch outdoor type manually gang operated, double break type complete with operating mechanism.	1 No.
3	Four core CTs on 11 KV side of Ratio 500/5/5 A: Core 1: Burden 30 VA, Class 1.0 for Metering. Core 2: Burden 30 VA, Class 5P10 for Protection.	3 No
4	Lightning Arrestors of 12KV, 10 KA rating	3 No
5	Single Potential Transformers of ratio 11KV / $\sqrt{3}$ / 110V / $\sqrt{3}$ Core 1: Burden 100 VA, Class 1.0 for Protection and Metering	6 No
6	Structures for LA, 11 KV Breaker CTs, PTs and Isolators	1 set
7	Earth Switch	1 set
8	Earthing system for switchyard	1 set
9	ACSR conductor, clamps, connector, etc	1 set
10	Cabling	1 set

The terminal equipments at B.S.E.B. grid sub-station at Nasriganj Hydel Power Station will be provided by BSEB and therefore, it has not been taken into account in the estimate.

11.6 L.T. POWER AND CONTROL CABLES

11.6.1 L.T. A.C. POWER CABLES

660/1100 V grade, 1 No.3 core, 500 x 2 sqr. mm PVC sleeve Aluminium armoured conductor and 415V Incoming Panel and Neutral Grounding Cubicle with suitable flexible connections and Jumpers.

660/1100V grade, 1 No.3 core 800 x 2 sqr. mm PVC sleeved Aluminium armoured conductor for interconnection between 415V Switch gear and step up Power Transformer Primary with suitable flexible connections and Jumpers.

660/1100 V grade PVC insulated 3 ½ Core, 150 sqr. mm Armoured Aluminium conductor power cable for interconnection between L.T. Panel and L. T. Station auxiliary panel (MCC).

660/1100V grade PVC insulated 3 Core, 150 sqr. mm Armoured Aluminium conductor power cable for interconnection between 415V Switchgear and MCC Panel and Lighting MCC.

11.6.2 L. T. CONTROL CABLES

660/1100V grade PVC insulated stranded copper conductor armoured cable for interconnection between field equipments and control panels including motors and MCC panels, CT/PT secondary connections and between various control panels to make the system complete for the equipment.

The following sizes of cables may be used :-

i.	3C x 10 sqr. mm
ii.	3C x 4 sqr. mm
iii.	2C x 2.5 sqr. mm
iv.	14C x 1.5 sqr. mm
v.	7C x 1.5 sqr. mm
vi.	3C x 1.5 sqr. mm

Control Cables upto 2.5 sq. mm shall be solid conductor and above 2.5 sq. mm the conductor shall be stranded

All control conductors shall be of copper.

11.7 D.C. SYSTEM

11.7.1 DC power will be required for control and enunciation purpose. For this 24 volt, 48 Ah capacity battery with provision of trickles charger, float charger, booster charger will be provided.

11.7.2 D.C. DISTRIBUTION SYSTEM

There will be five outgoing feeders and this distribution will consist of double pole DC on/off switch for outgoing feeders, fuse base, HRC link, indicating valves.

Typical Schematic diagram for 24V DC System is given in Exhibit No.8.

11.8 LIGHTING SYSTEM

11.8.1 The lighting system will be designed as per relevant IEC or IS standards. The lighting system may generally consist of the followings:

a.	Industrial type fitting with 2 x 40W florescent lamp	10No.
b.	Industrial type fitting with 1 x 40W florescent lamp	4 No.
c.	Street light fitting with 150W lamp for the outer area of power house	10 No.
d.	3 phase industrial outdoor type power outlet	1 No.
e.	250W flood light high pressure sodium vapour lamps for switch yard	2 No
f.	Emergency light fitting of 20DW	4No
g.	5A, 1 PH flush type socket	14 No
h.	15A, 1 PH, industrial socket	14 No.
i.	Junction box suitable for 4 way entry	20 No
j.	63A, metal clad, welding power socket	1 No

11.9 VENTILATION

11.9.1 Power House Ventilation System will consist mainly of exhaust fan, ceiling fan and pedestal fan. As this S.H.P. is located in a hot climate one 1.5 ton air conditioner will be required for its Control Room. The ventilation system will, therefore, consist of the following :-

- a. 250W wall mounted fan 6 No.
- b. 250W pedestal fan 5 No
- c. Ceiling fan 6 No.
- d. 1^{1/2} ton air conditioner 01 No.

:

11.10 FIRE FIGHTING SYSTEM

11.10.1 This power station is very small, it will be provided only with portable fire extinguishers. Generally the following fire fighting equipment will be provided in this power station :

a.	Foam type 9 litre capacity fire extinguishers.	6 No
b.	Co ₂ type 6.5 kg. capacity fire extinguishers trolley mounted	5 No.
c.	Co ₂ type 22.5 kg. capacity fire extinguishers trolley mounted	2 No.
d.	Fire buckets	10 No.

11.11 Earthing

The earthing system will be designed with fault current of 40 Kamp and soil resistivity to 20 ohm-mtrs. The calculation of earth mat will have to done as per IS : 3042 / 1987. The duration of fault for calculating design of earth mat will be taken as T = 1.09 sec. At the time of designing this earth mat, however the resistivity has to measured and design should be done accordingly.

11.12 EMERGENCY POWER

This S.H.P. will be connected to the grid and so long as there is power in the grid even if the S.H.P is not in operation AC power will be available at this S.H.P. and there will be no problem of lighting and for charging of the DC

battery system. There may, however, be occasion when the S.H.P. is under shutdown and either due to trouble in the B.S.E.B. grid or due to trouble in the 11KV line connecting this S.H.P. with the B.S.E.B. grid sub-station, there will be no power available for a few days. In such circumstances, power will be needed for emergency lighting and for charging of the battery system. It is therefore, proposed to install a 30 KVA three phase, 50 cycles per sec, 0.415 KV Diesel Generator set to be installed in this power station. Provision has, therefore, been made in the estimate for this Diesel Generator unit with its control board.

The Generating set will also be used during construction of the power station.

The Exhibit No. 9 gives the typical schematic diagram of emergency supply.

CHAPTER - 12

CONSTRUCTION MANAGEMENT AND MAN POWER PLANNING

12.1 Land Acquisition

12.1.1 Land required for the Power station belongs to Water Resources Department of Government of Bihar. As soon as in – principle sanction of the project is obtained, the water Resources Department should be approached for transfer of land required for the Power Station, Switchyard and the Colony to the implementation authority i.e. either B.H.P.C. or any NGO Further action on the project should be taken up when the decision of land transfer is obtained.

12.2 Appointment of Consultants

12.2.1 After the in – principle sanction of the land immediate action should be taken for appointment of a consultant for detailed design, and engineering so that no time is lost between sanction of the project and start the activities like detailed design and engineering. Before starting detailed design and engineering actual bearing capacity test at site has to be done for design of civil structure.

12.3 Contract Package

12.3.1 Contract package in this case will be the following :

i	Contract for the Consultants for detailed design and engineering.
ii	Contracts for construction of civil works
iii	contract for the detailed design, engineering, manufacture, supply erection, testing and commission of electrical and mechanical equipment.
iv	Contract for construction of transmission line as this is not generally done by the plant manufactures.

12.3.2 The turn key job for such projects may be easy to handle but once we appoint a Consultant separate contracts for each of the above packages will be more economical. However, decision is left to be taken by the Implementing Authority.

12.4 Transportation of heavy equipment

12.4.1 The heaviest equipment in this case will be the gear box for increasing the speed for using a standard generator. This is expected to be about 10 Tones but it may depend on the different manufacturers. In the power house there will be provision for 10 tons semi -automatic over- head travelling crane. The supply of plant and equipment should be planned in such a manner that plant and equipment start arriving only after the power station building is ready with approach road and commissioning of overhead travelling crane. This will help for saving of expenditure on a storage shed for storing the plant and equipment and transport of the same to the power house building for erection work.

12.4.2 It may however, be necessary to build a Small storage shed for storage of instruments and other delicate instruments at site.

12.5 Approach Road

12.5.1 The first item that has to be looked into is repair and strengthening of the approach road with culverts in between so that there may not be difficulty in transport of the equipment at site.

12.6 Man Power Planning

12.6.1 This is a small Power Station and in initial construction stage the staffing pattern will be as follows:-

1.	Project Engineer of the rank (of Asst. Elec. Engineer)	01 No
2.	Asst. Engineer (Civil)	01 No.
3.	Junior Engineer (Civil)	01 No.
4.	Junior Engineer (Elec.)	01 No.
5.	Peons	02 No
6.	Security Guards	03 No

12.7 Staff requirements for operation and maintenance

12.7.1 Staff requirement for operation and maintenance will be as follows:

1.	Junior Engineer (Elec.)	01 No.
2.	Operators	04 Nos.
3.	Errand Boys	04 Nos.

The Assistant Electrical Engineer working in other Power Station of the area will also remain In-charge of this Power Station.

12.8 The requirement of quarters at site will be

i.	Junior Engineers quarter	01 No
ii.	Operators quarters	04 No
iii.	Errand boys quarters	04 No.

These quarters should be constructed in the initial stage so that the same is used during construction work also.

12.9 A bar chart showing implementation programme of the project is enclosed as Exhibit No.10.

CHAPTER -13

PROJECT COST ESTIMATE

- 13.1 While framing the project cost estimate tentative design of the power channel, tailrace channel, power station building, D.L.R. bridge, approach road, etc. has been prepared and based on that the quantity of work involved has been calculated. The rates for civil works have been taken from the scheduled rates notified by Patna Division of P.W.D, Govt. of Bihar in October, 1998. The location of this power station falls in the area of the Division for which the rates have been prescribed.
- 13.2 As regards cost of the electrical and mechanical equipment the recent tender received against different works for Bihar and near about Bihar have been taken into consideration. Budgetary Rates have also been obtained from manufacturers. The scheduled rates for transmission line is as per the schedule rates of the Bihar State Electricity Board. Budgetary offers have also been obtained for E / M equipments.

ABSTRACT OF PROJECT COST

Cost Head	Item	Cost (Rs. in lakhs)
100	Preliminary	3.44 lakhs
102	Temporary Construction and Enabling works Permanent Building works	19.88lakhs
200	Land	5.42 lakhs
300	All other Civil Works	87.73lakhs
400	Electrical/Mechanical Works	163.00 lakhs
500	Associated Transmission system	6.00 lakhs
600	Trial and Commissioning activities	1.50 lakhs
	Total Works :	286.97 lakhs
800	Overhead construction Account a. Establishment and Overhead construction charges (5% of total) b. Audit and Accounts (1% of total works) c. Tools & Plants	 14.34lakhs 2.86lakhs 5.00 lakhs
1000	Physical contingency (3% of total works)	8.60lakhs
	Grand Total Say -	Rs. 317.77 lakhs Rs. 318.00 Lakhs

**GENERAL ABSTRACT OF COST FOR LAND, COMMUNICATION
AND OTHER CIVIL WORKS**

Sub Head			Amount (Rs. in lakh)
A	Preliminary:		3.44 lakhs
B	Land		5.42 lakhs
K	Building		19.88 lakhs
J	Other Civil Works:		87.73 lakhs
	i. Power Channel with lining and S.L.R. Bridge	11.69 lakhs	
	ii. Power House (Civil works)	51.01 lakhs	
	iii. Tailrace Channel with lining and S.L.R. Bridge	10.89 lakhs	
	iv. D.L.R. Bridge	08.04 lakhs	
	v. Miscellaneous Civil works	01.10 lakhs	
	vi. Communication-	05.00 lakhs	
	TOTAL :	87.73 lakhs	
E	Tools & Plants:		Rs. 05.00 lakhs

DETAILS OF COST UNDER THE SUB – HEAD**A. PRELIMINARY**

Sl.No.	Particulars		Amount (in Rs)
1.	Detailed alignment, survey of Power channel, Tailrace Channel including dog belling, fixation of pillars etc.	L.S.	35,000.00
2.	Establishing and fixing bench marks	L.S.	01,000.00
3.	Digging test pits along canal alignment and at structure site.	L.S.	03,000.00
4.	Bearing pressure test at Power-House sites and canal structures site and bore hole at site	L.S.	45,000.00
5.	Charges for consultancies for detailed design and engineering.	L.S.	2,50,000.00
6.	Training of Engineers	L.S.	10,000.00
	TOTAL		3,44,000.00
	SAY		3.44 lakhs

**DETAILED COST UNDER SUB – HEAD
B-LAND**

S.N.	Particulars	Qty.	Rate	Unit	Amount
1	Permanent land for acquisition Headrace channel, Power House, Tailrace channel, Switch Yard, etc	2 Hect	80,000/-	Per Acre	4,00,000/-
2	Permanent land for construction of camps, colony	0.4 hect	2.0 lacs	Per Hect.	80,000/-
3	Compensation for standing crops for 3 Hect.	2 Hect	30,000/-	Per Hect.	60,000/-
4	Demarcation, dog belling and fixing of boundary pillars including joint verification	L.S			2,000/-
			Total		5,42,000/-
			Say		5.42 lakhs

**DETAILS OF COST UNDER THE SUB – HEAD
K. BUILDINGS**

1.	Residential Buildings with Electrification, sewerage and plumbing			
	Junior Engineer	1 No	@ 95 M ² Each	95 M ²
	Operator / Astd. Controller	4 Nos.	@ 70 M ² Each	280 M ²
	Grade IV staff	2 No	@ 40 M ² Each	80 M ²
	Total for residential building			445M²
	@Rs.4000/- M²			Rs.1820,000
2.	Non-residential Building (Temporary)			
	Store shed	8 M x 7M ² =56 ²		Rs.1,68,000/-
		@Rs.3000/- M ²		
TOTAL- Rs. 19,88,000/-				
				Say Rs. 19.88 lakhs

J - POWER PLANT / APPERTENANCES AND OTHER (CIVIL WORKS)**GENERAL ABSTRACT OF COST**

S.N.	Particulars		Cost in Rs. Lakhs
1	Power Channel		Rs. 22.20 lakhs
	i Earth Work	2.78	
	ii Lining	3.37	
	iii Pucca structures (S.L.R. Bridge)	5.54	
		11.69 Lakhs	
2.	Power House		Rs. 51.01 lakhs
3.	Tailrace Channel		Rs. 10.89 lakhs
	i. Earth work	1.07	
	ii. Lining	4.28	
	iii. Pucca structure (S.L.R. Bridge)	05.54	
		10.89 lakhs	
4.	D.L.R. Bridge		Rs. 8.04 lakhs
5.	Miscellaneous		Rs. 01.10 lakhs
6.	Communication		Rs. 05.00 lakhs
		TOTAL- Rs. 87.73 lakhs	

ESTIMATED COST FOR EXCAVATION OF POWER CHANNEL

S.N.	Item of work	Quantity	Unit	Rate	Amount
1	Earth work in excavation in all kinds of soil within initial lead of 50M and initial lift as per drawing, specification and direction of Engineer In-charge. (Page- 85, Item No.10.1.7)	2650	M ³	Rs.17.90	Rs. 47,345/-
2.	Earth work in filling in embankment in all kinds of soil with initial lead of 40M and initial lift of 1.5M as per specification and direction of Engineer In-charge. (Page- 86, Item No. 10.1.9)	9800	M ³	Rs.16.95	Rs. 1,66,110/-
3.	Extra for each additional lead of 25M of part thereof over initial lead of 30M as per specification (one number extra lead).	9800	M ³	Rs.2/-	Rs. 19,600/-
4.	Extra for additional lift of 1.0M or part there of over initial lift of 1.5M as per specification (two lifts) in Item No. (1) & (2) above.	5600	M ³	Rs.2/-	Rs. 11,200/-
5.	Extra for hard soil	1300	M ³	Rs. 2/-	Rs. 2,600/-
6.	Extra for wet soil	500	M ³	Rs. 2/-	Rs. 1,000/-
7.	Extra for consolidation in all layers with sheep foot roller including watering as per specification.	12,450	M ³	Rs. 2/-	Rs. 24,900/-
8.	Fine dressing & turning with 3" thick grass sods obtained with a lead of 150M and with all lifts (Page-97.Item-10.1.41.1).	2000/-	M ²	Rs.2.30	Rs. 4,600/-
				Total-	Rs. 2,77,445/-
				Say-	Rs. 2.78 lakhs

**ESTIMATE OF COST OF LINING OF POWER CHANNEL
OF ARWAL SMALL HYDROELECTRIC PROJECT**

<u>Sn. No.</u>	<u>Item of work</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Amount</u>
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed well including wetting of required etc. all complete job as per direction of Engineer In-charge for laying PCC pre cast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page - a 96, Item-10.1.36)	1700	M ²	Rs.4.10	Rs. 6,790/-
2.	Providing 0.6 x 0.45 x 0.056M. pre-cast PCC (1 :3:6) slab in the side slope and bed of the canal with groove of the x slab etc. set in cement mortar (1:3) and flush pointing (1 :2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In-charge. (Page-103, Item-10.2.19).	1630	M ²	Rs.125/-	Rs. 2,03,750/-
3.	Providing PCC(1:3:6) with approved quality of graded stone chips of 20mm and down size and coarse granular sand of approved quality in lug slab, cross and longitudinal sleepers for lining of canal including mixing cement concrete in mixer vibrating and curing including screening royalty all	32	M ³	Rs. 2184.90	Rs. 69,916.80/-

	taxes, carriage of materials etc. wit all lifts and leads, removal of shuttering etc all complete job as per drawing, specification and direction of Engineer In-charge.				
4.	Providing intake wall with cement concrete (1:2:4) with approved quality of stone chips 20mm down to 6mm graded and quality sand including the cost of form work, making space for under drainage pipes, fixing bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer In-charge (Page -98, Item - 10.2.3).	7	Nos	Rs.396.40	Rs. 2,774.80/-
5.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete (Page-101, Item-10.2.10.1).	250	M	Rs.18.60	Rs. 4,650/-
6.	Supplying, fitting and fixing 150mm dia vertical non return valves complete with bolts, nuts plates etc. all complete.	7	Nos.	Rs.2500/-	Rs.17,500/-
7.	Supplying, fitting and fixing 50mm dia non	16	Nos.	Rs.1500/-	Rs.24,000/-

	return pocket valves complete with bolts, nuts etc. all complete.				
8.	Lip cutting for providing trans filter and drain all complete job including the cost and laying of sand stone chips filter of graded all complete job as per direction of Engineer In-charge.	290	M ³	Rs. 25/-	Rs. 7,250/-
				TOTAL-	Rs. 3,36,811.60/-
				SAY -	Rs. 3.37 Lakhs.

ESTIMATE OF COST OF CONSTRUCTION OF EACH S.L.R. BIDGE :
ONE ON POWER CHANNEL AND ONE IN TAILRACE CHANNEL OF ARWAL
S.H.P.

S. N.	<u>Item of Work</u>	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches in all kinds of soils with all leads & lifts as per drawing, specification and direction of Engineer In-charge.	200	M ³	Rs.21.90	Rs.4,380/-
2.	P.C.C. (1:3:6) M-100 in foundation of piers with stone metal 1 ½" and down and Sone sand (washed and screened) including the cast of cantering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In-charge.	20	M ³	Rs.2134.90	Rs.46,698.00
3.	1 st class brickwork in C.M. (1:4) with quality Sone sand w/s in foundation and superstructure including cost of curing, as per drawing, specification and direction of Engineer In-charge. (Page -113, Item- 10.4.2).	120	M ³	Rs.1427.80	Rs.1,71,336/-
4.	Earth work in filling in foundation trenches with previous soil including watering & remaining in layers as per specification and direction of Engineer I/C complete.	125	M ³	Rs.16.95	Rs.2,118.70
5.	R.C.C.M-150 (1:2:4) with stone chips ¾ and down and Sone sand (washed & screened) in bearing slab of piers including cost of shuttering, centering and currying etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer I/C. (Page-105, Item-10.3.4).	10	M ³	Rs.1737.55	Rs.176,375.50
6.	Providing roller boring with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer I/C (for class A loading).	4	Sets	Rs.5000/-	Rs.20,000/-

7.	R.C.C. (1:2:4) M-150 with stone chips $\frac{3}{4}$ " and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/C (Page-110, Item-10.3.13).	15	M ³	Rs.1746.30	Rs. 26,194.50
8.	Providing expansion joint in deck slab and weasing coat with angle iron and master fillet etc. including cost of supply, filling and mixing complete.	8	M	Rs.250/-	Rs.2.000/-
9.	R.C.C. (1:2:4) M-150 with Stone chips $\frac{3}{4}$ " and down and Sone sand w/s in pre cast wall including cost of shuttering, centring and curing, etc. complete but excluding cost of reinforcement.	4	M ³	Rs.1732.55	Rs. 6,950.20
10.	R.C.C. (1:1 $\frac{1}{2}$:3) M-200 with stone chips $\frac{3}{4}$ " and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/C (Page-110, Item-10.3.13).	12	M ³	Rs.2094.30	Rs.25,113.60
11.	Providing 4" dia G.I. drain water pipe in deck slab with perforated cap including cost of material & labour complete as per specification and direction of Engineer In-charge.	10	Nos.	Rs.80/-	Rs. 800.00
12.	Providing R.C.C. (1:2:4) M-120 railing and railing post with stone chips $\frac{3}{4}$ " and down and Sone sand including cost of reinforcement as per specification and direction of Engineer In-charge.	20	M ³	Rs.1737.85	Rs. 34,751.00
13.	Providing deep ruled cement in C.M. (1:3) with Sone sand (w/s) as per specification and direction of Engineer I/C on brick work exposed surface (Page-122, Item- 10.5.11)	130	M ³	Rs.37.10	Rs. 4,823.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, beading, placing in position and binding with 16 BWG wire complete	8	MT	Rs.17,309.80	Rs.1,38,474.40

	s per drawing, specification and direction of Engineer I/c.				
15	Providing Wheel guard post of R.C.C. (1:2:4) with stone chips ¾"nd down and Sone Sand (w/s) 3' -6' long and 9" dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification all direction of Western Link Canal Hydro electric Project)	20	Nos.	Rs.45/-each	Rs. 900.00
16	Dewatering, Diversion of Road and site clearance, etc.	L.S.			Rs.55,000/-
				TOTAL-	Rs.5,53,932.59
				Say-	Rs.5.54 lakhs.

Note:

1. Cost of one No. S.L.R. Bridge on Power Channel Rs. 5.54 lakhs
2. Cost of one No. S.L.R. Bridge on Tailrace Channel Rs. 5.54lakhs.

**ESTIMATE OF COST FOR CONSTRUCTION OF POWER HOUSE OF
ARWAL SMALL HYDROELECTRIC PROJECT**

POWER HOUSE

S.N	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches of Power House structures service ways, retaining walls u/s & d/s aprons etc in all kinds of soil wet & dry including all lifts & leads by manual labour as per drawing, specification and direction of Engineer I/C. (Vide Item No. 10.1.7 & 10.1.33.1 & 10.1.34.1 Page -85, 93 & 94 of Volume No. III & IV).	1600	M ³	Rs.21.90	Rs.35,040/-
2.	Earth work in filling with selected earth on back fill of abutment wing walls and foundation trenches in larges not exceeding 15cm well watered rammed fully completed by machine at CMC to the desired percentage of maximum dry density with all lifts & leads as per drawing, specification and direction of Engineer I/C (Page-86, Item-10.1.9).	3200	M ³	Rs.16.95	Rs. 54,240/-
3.	P.C.C.M. 7.5 (1:4:8) in foundation well below raft including cost of materials labour, mixing conveying laying, compacting and curing along with the cost of shuttering and centering all complete as per drawing, specification and direction of Engineer I/C. (Page-104, Item 10.3.2).	10	M	Rs.1268.26	Rs.12,682.60
4.	(A) Providing and laying RCC M-200 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the	300	M ³	Rs.2016.25	Rs.16,04,875

	cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its banging, binding, cutting & placing with position, (vide page -108, Item 10.3.10).				
	(b) Providing and laying RCC M-15 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its banging, binding, cutting & placing with position and direction of Engineer I/C. (Page -109, Item 10.3.12).	66	M ³	Rs.1729.95	Rs.1,14,176.70
5.	Supply & laying for Steel reinforcement in concrete work including straighting, derusting, curing, bending & binding with 16/20 SWG annealed wire, welding top but etc. with approved electrodes, providing cone block pins chain supports or reinforcement etc. with all materials complete as per drawing, specification and direction of Engineer In-charge (Page - 122, Item No.10.3.22).	24	MT	Rs.17,309.30	Rs.4,15,423.20
6.	Supply, fabrication, erection, fitting, fixing, painting & hoisting of roof trusses including embedded parts as per drawing, specification & direction of Engineer I/C. (Vide Page -18 and 126, Item No. (ii) and 5.5.28).	12	MT	Rs.21,452.80	Rs.2,57,433/-
7.	Supply, fabrication, fitting and fixing in position pressure release pipe and M.S. grill railing, steel ladders and steel hoisting agreements chequered plates, etc. wherever necessary as per drawing, specification	12	MT	Rs.23,352.80	Rs.2,80,233.60

	and direction of Engineer I/C. (Page -122, Item 3.5.28 and Page-18).				
8.	(a) Supply, erection, fitting & fixing of embedded plates 12mm thick to trash rack beams of the Power House as per drawing, specification and direction of Engineer In-charge.	6	MT	Rs.21,452.90	Rs.1,28,716.80
8.	b. Supply, erection, fitting & fixing of MS. Flats/rods in surrounding Mat/cables for earthing etc. all complete job as per direction of Engineer In-charge.	5	MT	Rs.21,452.80	Rs.1,07,264.00
9.	Providing and fixing steel doors and windows fully glazed etc as per I.S. specification and direction of Engineer I/C. (Page-120, Item 5.5.18).	40	M ²	Rs.1173.10	Rs.46,924.00
10.	Supplying, fitting and fixing in position 16 gauge rolling steel shutter as per I.S. specification including all railings, roller bearing, locking (double lock) arrangement as per direction of Engineer I/C. (Page-119, Item-5.5.16).	12	M ²	Rs.977.70	Rs.11,732.40
11.	Providing & fabricating steel purling C.P.E. including the cost of its erection and one coat of protective painting as per specification and direction of Engineer I/C.	6	MT	Rs.21,452	Rs.1,28,712.00
12.	Providing & fixing 100mm H.C.I. rain water down pipe including its all fittings complete s per specification and direction of Engineer I/C. (Page-56, Item24 (c) and Item 12.1.45.3, Page-220).	60	M	Rs.226.80	Rs.13,608.00
13.	Providing all materials & labour for ex-pension joints including	40	M ²	Rs.985.35	Rs.39,414.00

	supplying, fixing and placing of 230mm water stops filling with asphalt in diamond shaped hole in concrete of size 125mm square & providing 1 no. 12mm galvanised standard, stream pipe, pipe clump & 12x250mm bolts & fixing 25mm thick bituminous board in the gap of the existing joints as per drawing, specification and direction of Engineer In-charge. (Page-161, Item - 5.10.25).				
14.	Supply & laying standard son of terphelt or equivalent water proofing material in double layers of tarphelt treatment in five course over exposed roofs of Power House treating the top with gravel 100 Sq. ft. of surface (it will be the 6 th and last course as per I.S.S. and manufactures specification the surface with brush and cloths lightly socket in vasing oil and cost of all materials & labour complete job as per drawing, specification and direction of Engineer I/C. (Page-32, Item-84).	130	M ²	Rs.950/-	Rs.1,23,500.00
15.	Providing and laying 25mm thick mosaic tile flooring/glazed tiles as per specification and direction of Engineer I/c. (Page-130, Item-5.6.15(c).	136	M ²	Rs.398.55	Rs.54,202.80
16.	Providing & laying wall finishing work including coloring etc.	L.S.			Rs.1,70,000.00
17.	Providing & Painting steel structure, windows doors and etc.	L.S.			Rs.20,000.00
18.	Providing & fixing water supply and sanitary installation work.	L.S.			Rs.30,000.00
19.	Providing & fixing electrification works.	L.S.			Rs. 30,000.00

20.	Site clearance, levelling and dressing.	L.S.			Rs. 8,000.00
21.	Dewatering during construction.	L.S.			Rs.12,00,000.00
22.	Providing & Laying pre cast slab R.C.C. *M-150) as per design and drawing all complete job (Over roof Trusses).	L.S.			Rs. 95,000.00
23.	Providing and laying foam concrete complete job over the pre cast slab as per design and instruction of Engineer I/C.	L.S.			Rs.1,20,000/-
24.	Providing & Laying of "ESCAPE" & shifting of the existing village channel all complete job.	L.S.			Rs.10,00,000.00
				TOTAL-	Rs. 51,01,178.70
				Say-	Rs. 51.01 lakh.

ESTIMATE OF COST OF EXCAVATION OF TAILRACE CHANNEL

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation in all kinds of soil, within initial lead of 50m and initial lift of 1.5M as per drawing, specification and direction of Engineer I/c	4300	M ³	Rs.17.90	Rs. 76,970/-
2.	Extra for lead of 25M or part thereof over initial lead of 30M as per specification (one extra lead).	4300	M ³	Rs.2/-	Rs. 8,600/-
3.	Extra for each lift of 1.0M or part thereof over the initial lift of 1.5M per specification.	4300	M ³	Rs2/-	Rs. 8,600/-
4.	Extra for wet soil	800	M ³	Rs. 2/-	Rs. 1,600/-
5.	Extra for consolidation of earth in 225mm layers with power roller including watering and ramming as per specification.	4300	M ³	Rs.2/-	Rs. 8,600/-
6.	Fine dressing and turfing with 3" thick grass sods obtained within a lead of 60M.	1000	M ²	Rs.2.30	Rs. 2,300/-
				TOTAL-	Rs.1,06,670/-
				Say Rs.-	1.07 lakhs.

ESTIMATE OF COST OF LINING OF TAILRACE CHANNEL OF
ARWAL SMALL HYDROELECTRIC PROJECT

S.N	Item of Work	Qty.	Unit	Rate	Amount
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed 1 well including wetting of required etc. all complete job as per direction of Engineer In-charge for laying PCC pre cast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page -96, Item -10.1.36).	2800	M ²	Rs.4.10	Rs. 11,480/-
2.	Providing 0.6 x 0.45 x 0.056M pre cast PCC (1:3:6) slab in the side slope and bed of the canal with groove of the slab etc. set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In-charge. (Page- 103, Item- 10.2.19)	2550	M ²	Rs.125/-	Rs. 3,18,750/-
3.	Providing intake walls with cement concrete (1:2:4) with approved quality of stone chips 20mm down to 6mm graded and quality sand including the cost of form work, making space bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer In-	16	Nos.	Rs.396.40	Rs.6,342.40

	charge. (Page- 98, Item - 10.2.3).				
4.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete. (Page -101, Item -10.2.10.1).	500	M	Rs.18.60	Rs. 9,300/-
5.	Supplying, fitting and fixing 150mm dia vertical non return valves complete with bolts, nuts plates etc all complete.	10	Nos.	Rs.2,500/-	Rs.25,000/-
6.	Supplying, fitting and fixing 150mm dia non return pocket valve complete with bolts, nuts etc. all complete.	26	Nos.	Rs.1,500/-	Rs.39,000/-
7.	Lip cutting for providing transverse filter and drain all complete job including the cost and laying of sand/stone chips filter of graded all complete jogas per direction of Engineer I/c.	700	M ³	Rs.25/-	Rs.17,500/-
				TOTAL-	Rs.4,27,372.40
				Say-	Rs. 4.28 lakhs.

**ESTIMATE OF COST OF CONSTRUCTION OF D.L.R. BRIDGE AT 200 METRES
OF POWER CHANNEL OF ARWAL HYDROELECTRIC PROJECT.**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches in all kind of soils with all leads & lifts as per drawing, specification and direction of Engineer I/c.	200	M ³	Rs.21.90	Rs.4,380/-
2.	P.C.C.(1:3:6)M-100 in foundation of piers with stone metal 1 ½" & down & Sone sand (washed & screened) including the cost of centring, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In-charge.	20	M ³	Rs.2,184.90	Rs. 43,698/-
3.	1 st class brick work in CM (1:4) with quality Sone sand w/s in foundation and super structure including cost of curing, as per drawing, specification and direction of Engineer In-charge.	145	M ³	Rs.1,427.80	Rs.2,07,031/-
4.	Earth work in filling in foundation trenches with previous soil including watering & remaining in layers as per specification and direction of Engineer In-charge complete.	135	M ³	Rs.16.95	Rs.2, 288.25/-
5.	R.C.C.M-150 (1:2:4) with stone chips ¾" and down and Sone sand (washed and screened in bearing slab of piers including cost of shuttering, centring and curing etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer In-charge. (Page - 105, Item-10.3.4).	10	M ³	Rs.1737.55	Rs.17, 375.50/-

6.	Providing roller boring with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer I/c (for Class- A-A loading).	4	Sets	Rs.5, 000/-	Rs.20, 000/-
7.	R.C.C.(1:2:4) M-150 with stone chips $\frac{3}{4}$ " and down and Sone sand (washed and screened) in deck slab, kerb and girder including the cost of storing, shuttering, centring and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer In-charge. (Page-63, Item-9.3.8).	18	M ³	Rs.1, 746.30	Rs.31, 433.40/-
8.	Providing expansion joint in deck slab & weasing cost with angle iron and master fillet etc. including cost of supply, filling and mixing complete.	14	M	Rs.250/-	Rs.3,500/-
9.	R.C.C. (1:2:4) M-150 with stone chips $\frac{3}{4}$ " and down and Sone sand w/s in breast wall including cost of shuttering, centring and curing etc. complete but excluding cost of reinforcement.	5	M ³	Rs.1,737.55	Rs.8,687.75
10.	R.C.C. (a:1 $\frac{1}{2}$:3) M-200 with stone chips $\frac{3}{4}$ " and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/c.	15	M ³	Rs.2,094.30	Rs.31,414.50/-
11.	Providing 4" dia G.I. drain water pipe in deck slab with perforated cap including cost of material and labour complete as per specification and direction of Engineer I/c.	10		Each Rs.80	Rs.800/-

12.	Providing R.C.C. (1:2:4) m-150 raining and railing post with stone chips $\frac{3}{4}$ " and down and Sone sand including cost of shuttering, centring and curing complete best excluding cost of reinforcement as per specification and direction of Engineer In-charge.	25	M ³	Rs.1,737.55	Rs.43,438.75
13.	Providing deep ruled cement pointing in C.M. (1:3) with Sone sand (w/s) as per specification and direction of Engineer In-charge on brickwork exposed surface.	140	M ²	Rs.37.10	Rs.5,194/-
14.	Providing reinforcement in R.C.C. work including cost of cutting, bending, placing in position and binding with 16 BWG wire complete as per drawing, specification and direction of Engineer In-charge.	10	MT	Rs.17309.30	Rs.1,73,093/-
15.	Providing wheel guard post of R.C.C. (1:2:4) with stone chips $\frac{3}{4}$ " and down and Sone sand (w/s) 3'-6" long and 9" dia including cost of shuttering, cantering, curing and cost of reinforcement all complete as per drawing, specification and direction of Engineer I/c (vide Sone Western Link Canal Hydroelectric Project).	25	Nos.	Rs.45/-	Rs.1,125/-
16.	Dewatering, Diversion of Road and site clearance, etc.	L.S.			Rs.2,10,000/-
				TOTAL-	Rs.8,03,459.15
				Say-	Rs.8.04 lakhs.

DETAILS OF COST UNDER THE SUB -HEAD**MISCELLANEOUS**

S.No.	Particulars			Amount in Rs. Lakhs
1.	<u>Capital cost of</u>			
	i.	Electrification of colony	L.S.	Rs. 0.20
	ii.	Water supply over head tank	L.S.	Rs. 0.50
	iii.	Sewage and drains	L.S.	Rs. 0.20
2.	<u>Other Items</u>			
	i.	Technical record Photographic records	L.S.	Rs. 0.10
	ii.	Tree Plantation	L.S.	Rs. 0.10
			TOTAL	Rs.1.10 lakhs.

DETAILS OF COST UNDER THE SUB –HEAD**COMMUNICATION**

S.No.	Particulars	Qty.	Rate	Amount (in lakhs)
1.	Cost of improving the existing road up to Power House site (Widening & metalling)	2 Km	Rs.1.5lacs per km.	Rs.3.00 lakhs
2.	Construction of colony road	L.S.		Rs. 1.00 lakhs
3.	Telephone	L.S.		Rs. 1.00 lakhs.
			Total	Rs. 5.00 lakhs.

DETAILS OF COST UNDER THE SUB -HEAD**E -SPECIAL TOOLS AND PLANTS**

One Number Jeep (Inspection Vehicle) @ Rs. 4 lakhs each	Rs. 4.00 lakhs
Other special tools	Rs. 1.00 lakh
TOTAL	Rs. 5.00 lakhs.

ARWAL S.H.P.
ESTIMATE FOR ELECTRICAL & MECHANICAL EQUIPMENT
INCLUDING EVACUATION SYSTEM

A. ELECTRICAL & MECHANICAL EQUIPMENTS

S.N.	Particulars	Qty	Unit Price Ex-works (in lacs)	Total Price (in lacs)
1.	Vertical semi-Kaplan, Turbine with Syphon Intake	1	37.00	37.00
2.	Governing System	1	10.00	10.00
3.	Speed Increaser	1	13.00	13.00
4.	E.O. T. Crane-10 T capacity	1	5.00	5.00
5.	Generator	1	21.00	21.00
6.	Power Transformer	1	4.00	4.00
7.	Battery with charging System	1 set	3.00	3.00
8.	Switchboard Panels for Turbine Generator, Auxiliary, etc.	L.S.	12.00	12.00
9.	Switch –Yard	L.S.	5.00	5.00
10.	Cabling / Earthing Lighting / Ventilation / Firefighting	L.S.	9.00	9.00
11.	30 KVA diesel Generator with Control Panel and emergency Supply System	L.S.	2.00	2.00
12.	Tools & Plants	L.S.	1.00	1.00
13.	Spares for two years O & M	L.S.	4.00	4.00
			Total-	126.00
14.	Excise duty 12%			15.12
			Total-	141.12
15.	C.S.T. 4% Central Sales tax			5.64
16.	Transport and transit insurance & insurance during erection	L.S.		03.00
17.	Miscellaneous overhead charges	L.S.		03.00
18.	Cost of erection, testing and commissioning of equipment covered from Sl. No. 1 to 11 above.	L.S.		10.00
			Grand Total	3162.76
			Say-	163.00lakhs
B.	<u>COST OF POWER EVACUATION</u>			
1.	Cost of Transmission Line 11KV on Weasel conductor 3KM in length	L.S.		6.00
C.	<u>TRIAL & COMMISSIONING ACTIVITIES</u>			
1.	Cost of lubricant and other consumables	L.S.		1.50

14. FINANCIAL FORECAST

14.1 ESTIMATED COST OF GENERATION

S.N.	Particulars		Cost
1.	Installed Capacity	500 KW	
2.	Cost of the Project		Rs.3,18,00,000
3.	Cost / KW (2/1)		Rs.63,600
4.	Interest on capital during construction		Rs.31,80,000
5.	Total sum at large (2+4)		Rs.3,49,80,000
6.	Cost / KW including interest during construction (5/1)		Rs.69,960
7.	Annual generation	33,51,200 Kwh	
8.	Auxiliary consumption @ 0.5%	16,756 Kwh	
9.	Units sent out/ year (7- 8)	33,34,444 Kwh	
10.	Fixed charges (a + b + c)		Rs.44,52,000
	a. Interest charges @ 10% of 5	Rs.34,98,000	
	b. O & M charges 1.0% of 2	Rs.3,18,000	
	c. Depreciation @ 2.0% of 2	Rs.6,36,000	
11.	Total fixed and running charges per annum (10)		Rs.44,52,000
12.	Cost/Kwh narrated 11/7		Rs. 1.32
13.	Return on capital @ 16% and general reserve @ 0.5% i.e. 16.5% of project cost (0.165x2)		Rs.52,47,000
14.	Profit/Unit sent out (13/9)		Rs.1.57
15.	Price/ Kwh generated for sending out (12 + 14)		Rs. 2.89
Note:	Interest during construction is calculated assuming total duration of the project as 24 months and an interest rate of 10% as per formula :		
	$I = \frac{PNR}{2 \times 12 \times 100}$		
Where,			
P =	Project cost;		
N =	Total duration of the project in months;		
R =	Interest rate in %		

14.2 PAY BACK PERIOD

1.	INVESTMENT	Rs.lakhs.
	1.1 Project capital cost	Rs.3,18,000/-
	1.2 Interest during construction	Rs.31,80,000/-
	1.3 Total Investment	Rs.3,49,80,000/-
2.	<u>REVENUE DURING OPERATION</u>	
	<u>2.1 Annual Revenue Generated</u>	
	a, Units sent out/year KWh (Refer item 9 of calculation sheet of units)	33,34,444 Kwh
	b. Selling price of power Paise / Kwh (Refer item 15 of calculation sheet of units generated)	289
	c. Total revenue generated: axb/100	Rs. 96,36,543.10
2,2	<u>Annual Generation Costs Incurred</u>	
	Annual fixed charges excluding depreciation and interest charges (Refer item 10 (b) of calculation of cost of generation)	Rs. 3,18,000
2.3	Net Annual revenue generation (2.1 -2.2)	Rs. 93,18,543.10
3.0	Pay back period (1.3/2.3)	3.41 years.

14.3 BENEFIT COST RATIO

A.	<u>Annual Expenses</u>	
1	O & M	Rs. 3,8.000/-
2.	Depreciation charges @ 2%	Rs. 6,36,000/-
3.	Interest charges	Rs. 34,98,000/-
4.	Total annual expenses	Rs. 44,52,000/-
B.	<u>Annual Revenue</u>	Rs.96,36,543.10
C.	Benefit cost ratio (B/A) =	2.16

14.4 FINANCIAL STATEMENT
CAPITAL EXPENDITURE DURING FIRST YEAR -225.3 LAKHS
CAPITAL EXPENDITURE DURING SECOND YEAR- 330.00 LAKHS

Year	Capital outlay (Rs.lakhs)	Expenditure during the year in Rs. in lakhs	Simple interest on Col. 3 @ 5% in Rs. in lakhs.	Depreciation @2% on Col. 2 in Rs Lakhs.	O&M expenses @ 1% on Col. 2 Rs. Lakhs.	Total working expenses in lakhs (5+6)	Unit generated in lakhs KWH	Unit Sent out in lakh KWH	Anticipated revenue @ 211 P/KWH in lakhs	Net Revenue (10-7)	Surplus or deficit (-) after meeting (11-4)	Accumulated surplus (+) or deficit (-) in lakhs (Col. 12+pervious year of Col. 13.)	Sum at large at the end of the year Col. 2+3-13	% Return 12/14 x 100
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
1	---	118.00	5.90	---	---	---	---	---	---	---	-5.9	-5.9	123.90	-4.76
2	118.00	200.00	21.80	2.36	1.18	3.54	---	---	---	-3.54	-25.34	-31.24	349.24	-7.25
3	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	23.78	294.22	18.70
4	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	78.80	239.20	23.00
5	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	133.82	184.18	29.87
6	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	188.84	129.16	42.59
7	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	243.86	74.14	74.21
8	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	298.88	19.12	287.76
9	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	353.90	-35.90	---
10	318.00	---	31.80	6.36	3.18	9.54	33.51	33.34	96.36	86.82	55.02	408.92	-90.92	---

N.B.: - The following rates of depreciation are generally applicable for Hydel Project of the capacity.

	Rate
1. Diversion demand Tailrace channel-	1.95%
2. Power House building	3.40%
3. Approach road-	1.95%
4. Turbines, Generators and other E & M works-	3.40%
5. Transformers, etc.	5.06%
6. Controls, Cables, etc.-	5.06%
7. Five fighting equipment-	8.24%
8. Batteries with Charger	21.55%

The average cost of depreciation on the total cost of the estimate generally comes to about 2% of the total cost. Therefore, for convenience of calculation an average of 2% depreciation has been taken for calculating the financial statement.

15. ENVIRONMENT AND ECOLOGICAL ASPECT .

QUESTIONNAIRE ISSUED BY THE DEPARTMENT OF ENVIRONMENT FOR RIVER VALLEY PROJECTS

1.0	<u>Detailed basic information affecting the environment</u>	
1.01	Predominant existing land use: pattern (agricultural land reserve and the forests etc.) in project area upto 10 km. upstream.	Comprises mostly agricultural land owned by W.R. Deptt. of Govt. of Bihar.
1.02	Break up of submerged area total submerged area (1% hectares)	The project does not envisage any reservoir and hence question of submergence does not arise. A bypass channel will be constructed parraled to Patna canal of Sone canal system.
	Forest land Cultivated land Shrubs & fallow Rocky outcrop Wet land Open water Other use.	Nil
1.03	a. Forest type in catchment and sub merged areas.	Nil
	b. Extent and nature of forest to be cut for construction of roads, colony and other appurtenant works.	Nil
1.04	Duration of projects construction	24 months
1.05	Estimated peak labour strength	Skilled- 10
		Unskilled- 50
		Labour from local villages to be recruited.
1.06	Population density in the area per sq. km.	None
1.07	Number of villages and population to be displaced	
	No. of villages	
	Size of village	
	Affected families in each village	Does not arise
	ST SC Other	
	Occupation of the affected people	
	Agriculture	
	Industrial labour	Does Not arise
	Forest based	
	Owner cultivators by size of land holdings:	
	Marginal (1.0hect.)	
	Small (1.0E 2.5 hect.)	Does not arise
	Medium (2.5 E 5.0 hect.)	
	Large (Over 5.0 hect.)	

1.08	Resettlement Is a rehabilitation committee being constituted?	As these will be no displacement no resettlement is needed.
	Existing guidelines, if any for compensation.	Does not arise
	Level of compensation in cash and kind.	Does not arise
	Number of out families likely to be settled in new settlement	-Do-
	Size of proposed new settlement.	-Do-
	Layout plans/master plans for new settlement	-Do-
	Distance of new settlement form the present habitant	-Do-
1.09	Number and type of facilities (e.g. School, Post Office, Bank, Panchayat Ghar, Police Station, approach road, Drainage and Water supply etc.) proposed to be provided.	Only approach road up to site will be improved. Other facilities as available locally will be utilised.
1.10	Is the affected area covered by development programmes like IED, SED, draught prone area tribal development etc.	No
1.11	Any proposal to provide or create employment for outees nature and quantum of employment to be provided	Does not arise as there will be no oustees.
1.12	What is the expected rate of siltation ?	Not applicable
	Is down stream area subject to flooding ?	No
1.13	Wind at dam site (diagram giving statistical information concerning the direction and speed of the wind at the site).	Not applicable
1.14	Hurricane, tornadoes, cyclones, Frequency of occurrence Wind velocity (Average)	Not applicable
1.15	Plan of area on the reservoir periphery subject to erosion, slides and slips.	Not applicable
1.16	The depth of ground water	
	Table- Maximum	15 M
	Minimum	5 M
	Quality of ground water portable/ non-portable/ fit for irrigation industry.	Portable
1.17	Present ground water use pattern in the command area under irrigation	The command area is surface irrigated by canal
1.18	Based on the experience of similar project in the area, specify the interaction between the altered surface water patterns and underground aquifers and their recharge.	Not applicable
2.00	Environmental status	

	a. Indicate known pollution sources in the region (indicate the industrial like chemicals, textiles and other thermal power unit, mining operations, etc.)	Not such industry near Project site.
2.01	Indicate the industrial and other development project likely to be taken up in the area during the next five to ten years:	No such plan
2.02	a. Does the area support economically viable aquatic life, fish and crocodiles?	Not applicable
	b. Are there any fish/ crocodile breeding ground in the river tributaries in the submergence?	No
2.03	Does the site contain a wild life (including birds) habitat, breeding area, feeding area, migration route including the number of wild life available in the area.	No.
2.04	Is the site a potential wild life sanctuary?	No
2.05	Specify and rare or endangered species of flora and fauna found in the effected area alongwith their approximate number and measures to salvage/ rehabilitate them:	No
2.06	Is the area of tourist resort ?	No
2.07	Are any monuments/ site of cultural, historical religious archaeological or recreational importance including wild life sanctuaries, national parks etc. likely to be affected by the proposed project ? If so details thereof	No
2.08	Does the proposed area suffer from endemic health problems due to water/soil borne disease.	No
3.00	<u>ENVIRONMENTAL IMPACTS</u>	
3.01	What measures are planned to develop the site to enhance its aesthetic aspects (i.e.: recreation and water sport facilities and picnic sites, etc.)	Some plantation near the power station will be done.
3.02	Will the project help in flood control, reduction or even eradication of flood havoc down stream ?	Not Applicable
3.03	Are any changes in water salinity expected? If yes, give details of proposed measures to counter act this.	No
3.04	Are problems of water logging envisaged in the command area? If so, give details of proposed steps to combat the problem:	No

3.05	Will the reservoir be used for fisheries development, fish culture as well as fish breeding, crocodile farming etc.? If yes, give details there of	There is no reservoir envisaged
3.06	Will fish ladders/life and like arrangements be provided to allow movement of important migratory fish population?	Not applicable
3.07	Measures proposed to prevent grazing the cultivation on reservoir slopes to avoid erosion and premature silting up the impoundment	Not applicable
3.08	Will any important natural resources (minerals, coal, timber, etc.) be lost or their use precluded because of the presence or operation of the project? If yes, specify the resources estimated loss:	No
3.09	What is potential loss in aquatic production on site up and down stream and other useful animals and plants?	Nil
3.10	Will the formation and use of the water body result in the introduction or enhancement of water borne diseases?	Not applicable
3.11	Will the impounded reservoir lead to:-	
	i. Noxious aquatic weeds like snails, water, Hyacinth etc.	No
	ii. Intermittent host (Vector) like snails, mosquitoes etc.	No
3.12	How will aquatic weeds be controlled in submerged area as to provide an improved habit as for fishery exploitations	Not applicable.
3.13	How will project induce adverse climatologically changes (regarding temperature, humidity, wind and precipitation including modifications to macro and micro climate)?	No
3.14	What impact is expected a geological factors (e.g. seismic impact or reservoir loading)?	No impact.
3.15	Indicate the magnitude of impact due to population pressure on:-	
	i. Felling of trees for firewood	Nil
	ii. Forest fires.	Nil
	iii. Over grazing leading to depletion of the pastures	Nil
	iv. Visual pollution and damage to scenario values	Nil
3.16	What arrangements are being made	

	(i) to meet fuel requirements of the labour force during construction period to prevent indiscriminate felling of trees for firewood ?	Local labour will be used for construction proposes
	ii. For compensatory a forestation?	Not applicable
	iii. To enforce anticipating laws	Not applicable
	iv. To control flow of sediments and pollutants due to fertilizer and pesticide run-off for cultivated area	No applicable.
	v. For restoration of land in construction areas (filling, grading, and reforestation etc.) to prevent erosion.	This situation will normally arise
	vi. For soil conservation in the catchments?	Not applicable
4.00	Cost of Environmental studies and project Management.	--
4.01	Provision for environmental studies/surveys needs for this project	Not applicable
4.02	Cost of proposed remedial and mitigative measures environment	Not applicable
4.03	Has the cost of environmental studies/protection measures been considered in the cost benefit analysis of the project.	Not applicable.

SALIENT FEATURES

1. LOCATION:

- i. State : BIHAR
- ii. District : JEHANABAD
- iii. Taluka : ARWAL
- iv. Village : BELSAR
- v. Access – Road :
 - i. From SHP site to Patna – Aurangabad Road – 0.5 KM
 - ii. From Aurangabad (GT Road) – 50 KM.
- Rail : Jehanabad Station on Patna- Gaya Railway line of Eastern Railway – 45 KM.
- Airport : From Patna Airport – 105 KM.
- vi.. Geographical Co-ordinates :
 - Latitude : $25^0 - 12' - 20''$ North
 - Longitude : $84^0 - 40' - 30''$ East.

2. CANAL FALL/ LOW HEAD

- i. Project : Belsar Small Hydel Project
- ii. Canal System : Patna Branch Canal of Sone Canal System.
- iii. Fall Site : Belsar at 48.28 km of Patna Branch Canal.

3. HYDROLOGY

CANAL FALLS/ LOW HEAD SCHEMES :

- i. Design discharge : 35.80 cumecs.
- ii. Water availability

<u>Dependable yield</u> <u>Percentage</u>	<u>Discharge</u>	<u>Head</u>	<u>Power in KW</u>
25%	33.10 cumecs	3.25 M	928.00
50%	17.70 cumecs	3.25 M	496.00
75%	14.40 cumecs	3.25 M	404.00
90 %	10.05 cumecs	3.25 M	281.00

4. LOW HEAD/CANAL SCHEME

- A. Shape : Trapezoidal
- b. Size :
 - Bed width – 10.68 M/
 - Full supply depth – 2.146 M
 - Length – 160 M

- c. Capacity of power canal (cumecs) : 35.80 cumecs
- d. Full supply level (El M) : 84.094 M above MSL
- e. Lining details (m) : Plain cement concrete lining.
- f. Height of fall (m) : 3.25 M
- g. By-pass arrangements : By pass canal
- h. Bridges if any : One single lane bridge.
- i. Annual closure period of canal(days) : 120 days in a year for maintenance of canal.

5. POWER HOUSE

- i. type : Semi Kaplan Syphon Type.
- ii. Head (m) :
 - Maximum : 3.418 M
 - Minimum : 3.25 M
 - Average : 3.25 M
 - Design : 3.25 M
- iii. Size of Power House
 - a. Length (m) : 16
 - b. Width (m) : 12
 - c. Height (m) : 80
 - d. Machine Hall floor level : (El. M) 82.40 M above M.S.L.
- iv. Installed capacity (KW) : 2 x 500 KW
- v. Turbine (s)
 - Type : Semi Kaplan Syphone Intake
Vertical Turbine
 - Number : Two
 - Capacity (Kw/HP) : 2 x 500 KW
- vi. Type of generator : Synchronous vertical
Generator
 - a. Excitation system : Brushless
 - b. Regulation system : Electrical governor.
- vi. POWER HOUSE:
 - Crane/Lifting tackle capacity : 10 MT – seimi E.O.T.

6. TAILRACE

- i. Shape : Trapezoidal

ii.	Size	:	Bed width = 10.68 M/Full supply depth – 2.146 M.
iii.	Length (m)	:	Plain cement concrete lining – 210M.
iv.	Water Level (El M)	:	Full supply level – 80.844 M above MSL.
v.	D.L.R. Bridge	:	1 No.
	S.L.R. Bridge	:	1 No.
vi.	Number and size of draft-tube gates	:	Nil

7. **POWER :**

i.	Installed capacity	:	2 x 500 KW
ii.	Firm power (kw) Load factor		
	In percent	:	Firm power – 2x x 500 KW plant load factor 50%.
iii.	Annual Energy (Kwh)	:	60,33,100 KWH
iv.	Power evacuation	:	By single circuit 11 KV lime from SHP to Doudnagar 33/11 KV sub-station of B.S.E.B.

8. **SWITCHYARD**

i.	Voltage level/ basic		
	Insulation level	:	0.415/11 KW
ii.	No. of bays	:	One
iii.	Size :		
	a. Length	:	6 M
	b. Width	:	4 M
iv.	Number of transformer of 0.415/11 KW.	:	Two

9. **ESTIMATES OF COSTS**

i.	Total cost		
	(Rs. Lakhs)	:	Rs.5,70,00,000.00 (Excluding IDC).
ii.	Cost per KW installed	:	Rs.57,000/- (Excluding IDC)

	(Rs. Lakhs)	
iii.	Cost of generation per KWh(Rs. Lakhs):	Rs.1.32
iv.	Benefit Cost ration :	2.16
v.	Cost of sale of energy per KWh allowing 16% profit on capital + 0.5% reserve :	Rs.2.88
vi.	Pay Back period :	3.75 years.

GOVERNMENT POLICY REGARDING S.H.P.

1.1 State Government Policy:

- 1.1.1 In order to bridge the gap between demand and supply of electrical power and energy which is increasing in great proportion, the Govt. of Bihar has decided to encourage harnessing of the hydro-power potential in hilly areas. The Government has also decided to encourage private entrepreneurs to install such small power station and also allow them to distribute the power in nearby licenced area directly or to pump the generated power to the Bihar State Electricity Board grid. Such private entrepreneurs can have their own Tariff for supply of electricity to their consumers in the licenced area as per the Resolulation No.643, dated 10.3.93 of Department of Energy, Government of Bihar.
- 1.1.2 The Draft Policy Guide lines for the private participation for development of non-conventional energy sources in the State of Bihar with regard to Power Purchase Policy, wheeling charges, banking and interfacing is already under consideration of the Government and very soon this policy will be decided and come into force.

1.2 Central Government Policy

- 1.2.1 The Government of India through Ministry of Non-conventional Energy Sources, Power Group, has in order to given thrust to this programme, also decided to provide maximum capitalized interest subsidy amount upto Rs.38.3 lakhs per MW or the actual capitalized interest subsidy amount whichever is lower to bring down the interest rate by the financial institutions for execution/development of Small Hydro-Projects upto 3 MW station capacity. This interest subsidy will be provided for the project taken in the private sector, co-operative sector, N.G.O.s, Local bodies, S.E.Bs, and Government Departments and public sector corporations barring loss making private and public sector entrepreneurs.
- 1.2.2 The Ministry of Non-conventional Energy Sources has also introduced the following subsidy scheme in respect of S.H.P. projects upto 3 MW capacity.

- i. **For grid connected projects** – subsidy upto 25% of the acceptable costs of civil works and E& M equipment including generator transformers.
- ii. **For non-connected projects and projects in North-Eastern Region and hilly regions (Whether grid connected or non-grid connected):** Subsidy upto 50% of the acceptable capital costs of civil works and E & M equipment including the transformers. The projects are taken to be non-grid if the grid transformer is in excepts of 2 KMs from the projects site. Further, power from the S.H.P. project not connected to the grid or in North-Eastern Region and in hilly regions is to be supplied at the reduced rates reckoned on a cost of generation calculated after netting out subsidy element from the capital cost.

1.2.3 For giving the above subsidy the following will be taken as the acceptable capital cost of civil works and E & M equipment including generator transformer for providing the subsidy:-

Board Category of Project		Capital cost/KW of E & M and civil works for provision of subsidy	
		Station capacity below 500 KW	Station capacity 500 KW & above.
1.	Run off river projects in plain regions	Rs.38,000.00	Rs.34,000.00
2.	Projects in North Eastern region and other hilly areas (as declared by State Government)		
	a. Within 10 Kms from road head	Rs.40,000.00	Rs.36,000.00
	b. Between 10-20 Kms from road head	Rs.45,000.00	Rs.40,000.00
	c.. Above 20 kms from road head	Rs.50,000.00	Rs.45,000.00

POWER SCENERIO IN BIHAR AND NEED OF THE PROJECT

In Bihar, the responsibility of meeting the power demand in the D.V.C. Valley Area is of D.V.C. For the remaining area, the total responsibility of meeting the power demand is the responsibility of State Government through State Electricity Board, Tenughat Vidyut Nigam, and Bihar Hydro Electric Power Corporation.

The 15th Power survey assessed the power and energy demand of Bihar outside D.V.C. areas as follows :-

YEAR			
	1999-00	2000-01	2001-02
Energy Demand in M Kwh	10765	11492	12222
Peak Load (MW) (at 60% load factor)	2048	2186	2325

Even the above forecast of the demand was based on the suppressed demand in Bihar at the time of 15th Power Survey. This is because of the fact that there is inadequate transmission, distribution network to meet the total demand of the State outside D.V.C. Valley.

In the B.S.E.B. system there has not been any addition in the generating capacity since 1986 except two units of 210 MW at Tenughat Thermal Power Station. The generating units of Patraru, Barauni and Muzaffarpur are not functioning well and the B.S.E.B. has derated their capacity and the derated capacity availing is as follows :-

Patraru	600 MW
Barauni	210 MW
Muzaffarpur	220 MW
Tenughat	<u>420 MW</u>
	1490 MW

Besides, Subernrekha Hydel Power Project of 130 MW capacity runs only for few hours during peak load period.

The present demand of power in B.S.E.B. area is hardly 1000 MW during normal consumption period and 1400 MW during peak period. This demand is a suppressed due to several reasons as explained above.

The average monthly consumption of energy in the State (outside D.V.C. area) is generally met from the following sources :-

From N.T.P.C.	390 MU
From Power Grid Corpn.	30 MU

(Sukha from Bhutan)

From Tenughat Vidyut Nigam 100 MU

From State Electricity Board

Power Stations 200 MU

Total: 720 MU

With this average monthly consumption the yearly consumption in the State will be 8640 MU against the projected demand of 11492 MU in the year 2000-01 and 12222 MU in the year 2000-02. The available energy, therefore, falls short of the present and projected demand.

Against the 1000 MW power demand during the non-peak period and 1400 MW during peak period about 600 MW are purchased from N.T.P.C. and Power Grid Corporation and Tenughat Thermal Power Station and about 300 MW generated at Board's Power Stations. Even with the suppressed demand of the State there is shortage of 400 MW power which is about 25% of the power demand.

Besides, for successful operation of any Power System, Hyde-Thermal mix of 40:60 is considered to be ideal one and that of 25:75 is satisfactory. Even with the present Thermal installed capacity of 1490 MW for achieving the Hydro-Thermal mix of 40:60 there should have been about 993 MW capacity of Hydel Power Stations and for achieving Hydro-Thermal mix of 25:75, there should have been about 496.50 MW of installed capacity of Hydel Power Stations.

There is thus shortage of power, shortage of energy and also a very low Hydro-Thermal mix in the State and this calls for installation of Hydel Project in the State wherever possible to obviate the shortage. There is, therefore, need of this Power Station to be installed early.

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<u>EXHIBIT NO.</u>	<u>PARTICULARS</u>
I	SCHEMATIC DIAGRAM
II	TOPOGRAPHICAL & CONTOUR PLAN
III	LAY OUT PLAN OF POWER HOUSE
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VIII.	24 V DC SYSTEM
X.	TYPICAL SCHEMATIC DIAGRAM DOR EMERGENCY SUPPLY
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CHAPTER – 1

INTRODUCTION

- 1.1 The Sone Canal System emanating from Indrapuri Barrage on the river Sone plays a key role in ushering tremendous irrigation potentiality to the vast track of land in Bihar. The track covered in this sygem pertains to the districts of Patna, Aurangabad, Bhojpur, Rotas, Buxar and Jehanabad. This canal system has a good number of falls provided for systematic irrigation of the area. These falls located for best utilization of water for irrigation purposes, can be harnessed for power generation.

Exhibit No. 1 shows the Schematic Diagram of the Sone Canaly system.

The Main Canals, Western Link Canal on left side and Eastern Link Canal on the right of Sone River, flows in the region. After traversing a distance of 10.9 KM of the Eastern Link Canal, Main Eastern Canal starts. Patna Branch Canal originates from 11.60 km of the Main Eastern Canal. The Belsar fall lies at 48.28 km of Patna Branch Canal.

1.2 **LOCATION :**

- 1.2.1 The project is located in the plains of South Bihar. The geographical co-ordinates of the proposed site are as under :-

Latitude - 25⁰ - 12' - 20" North
 Longitude - 84⁰ - 40" -30" East.

- 1.2.2 The proposed S.H.P. site is located near village Belsar in Arwal Block of Jehanabad district. This site falls at 48.28 km in Patna Branch Canal. The National Highway No.2 (Grand Trunk Road) at Aurangabad is 50 km away from the site. The state highway (Patna-Aurangabad) is 0.5 km from the S.H.P. site.

Jehanabad station is the nearest Railway Station located on Patna-Gaya line of Eastern Railway at a distance of 45 km from the site. Nearest airport is Patna at a distance of 105 km. This site is thus approachable by pucca road and rail facility is available.

This site is also connected by service road of the Patna Branch Canal. This is good enough for movement of light vehicles and for transport of plant and equipment. Transport of plant and equipment can be done also by improving 0.5 km road connecting the site to the state Highway.

Details of main towns connected with this site is as follows :-

i.	Aurangabad	50 km	Grand Trunk Road (N.H.2) passes through Aurangabad which is a Railway Station of Eastern Railway.
ii.	Jehanabad	45 km	Nearest Railway Station and District Head Quarter.
iii.	Patna	105 km	Capital town and also Airport, Railway Station of main line, Eastern Railway.
iv.	Doudnagar	16 km	Nearest local township.
v.	Arwal	20 km	Block Headquarters.

1.3 **PHYSIOGRAPHY AND TOPOGRAPHICAL ASPECTS:**

Belsar S.H.P. is located in Belsar village in the Patna Branch Canal. The land in the vicinity is cultivable. The area bears no undulation and is good for cultivation.

The average elevation of the project site is 85.15 M above M.S.L. A topographical survey of the area has been carried out and the same is placed in exhibit-2.

The nature of the soil is good for crops as well as manufacturing Class-A bricks. The bearing pressure of the soil at the site is estimated to be 10 M.T. per M² at the depth of 2.5 metre below natural soil level. This has however, to be measured before undertaking details design and engineering.

1.4 **GEOLOGY :**

The project area falls in the Sone-Ganges basin, which consists of thick alluvial soil, the thickness of which varies from 3M to 5M. Details have been indicated in Chapter 'Geology' separately.

1.5 **HYDROLOGY:**

The discharge data has been collected from Water Resources Department, Government of Bihar, Patna. Discharge Data pertains to the period of ten years ranging from 1986 to 1995.

At the fall site discharge measurement is done by the Water Resources Department and the same has been adopted for computation of power potential. This indicates that this quantum of water will be available and can be utilized for power generation.

Based on the requirement of water for various types of crops, the discharge water fluctuates in the canal. The canal remains closed in the month of March, April, May and mid-June. During

the winter season water discharge of the canal is less as it irrigates the Rabi crops, which in general, require less water. In brief, water in the canal remains available for 66% to 70% of the period in a year.

Availability of water and percentage dependability for power generation details have been indicated in Hydrology Chapter.

1.6 METEOROLOGICAL CONDITIONS:

The area falls in central Bihar, where in general, tropical climate prevails. The maximum and minimum atmospheric temperature recorded in summer and winter seasons is 45⁰ C and 40⁰, respectively. The maximum mean annual temperature is 37.05⁰ C and minimum mean annual temperature is 14.7⁰ C. The relative humidity of area varies from 86% (maximum) to 31% (minimum). The average humidity is 64%

The annual average rainfall is 1141 mm. Maximum annual rainfall and minimum annual rainfall is 1718.6 mm and 567.7 mm respectively. Heaviest rainfall recorded in 24 hours is 154.5 mm. The precipitation starts from mid-June and ends in mid-October. Thus barring four months may be treated as the working season though a little shower during December/January occurs occasionally.

1.7 SOCIO-ECONOMIC ASPECTS:

The project site is in Central Bihar of Sone-Ganga basin where it is thickly populated. The inhabitants are predominantly agriculturists, who mostly thrive on agricultural products. With the spiral hike in population the incidence of yield per acre per capita has been reduced tremendously. Their modus-operandi is to utilize fossil fuel-like petrol, diesel and K.Oil required for running their agricultural appliances. There are no industries in the area owing to non-availability of power. Thus; they drift towards unwarranted activities and immigration of people are becoming more prominent specially among the poor and landless.

Provisions of power facilities to the area now contemplated under this S.H.P. will lead them towards betterment and ameliorate their difficult living conditions. This area is in acute need of power so as to create the industrial environment in the area and also prevent them from resorting to unwanted means of livelihood to which they are now accustomed. These efforts can be succeed only if power potential is harnessed without disturbing the existing irrigation facility. Various types of industry would grow as per availability of power. With the industrial growth people will elevate their living condition thus putting a check on unwanted tendencies as well as immigration.

1.8 COMMUNICATION:

Belsar S.H.P. is approachable by metalled road as well as railway facility is also available. All these have been elucidated in para 1.2 STD/ISD facility is available at Daudnagar only 16 km away and also at Arwal only away and this facility can be extended upto the site as well.

CHAPTER – 2

GEOLOGY

- 2.1.1 The Project site lies in Central Bihar having surrounded by two major river Sone & Ganges. The deposits of thick alluvium soil inundates this region and this indicates that the area f the eart. At the project site in general, the area is plain in nature.
- 2.2 Geologically the entire track has achieved the established soil pattern due to perennial irrigation system since century and a half. In general, soil is ‘Dhumus’ and at some places black cotton soil, silt, and various grades of sand, are available. The thickness of these alluvial soil varies from 3M to 5 M.

2.3	Ground water table is found at 12.00 M depth, but this depth varies. During monsoon period the water table remains at 7 M below the natural ground level. The power channel and the tailrace channel will remain above the sub-soil water level. Suitable drainage arrangement shall be made to over come the water logging. Bearing pressure at the project site is considered as 10 MT per M ² at 2.5 metre depth. This, however, will have to be checked before undertaking detail design and engineering.
2.4	Barring about four months, complete year is treated as working season. Monsoon period covers from mid-June to mid-October in a year with a few showers of rain during winter. The average annual rainfall in this area is 1141.8 mm.
2.5	The project area lies in Zone- II of seismic zone as per Indian seismic zone classification.

CHAPTER – 3**HYDROLOGY**

3.1	<p>Hydrological study has been conducted in order to assess the availability of water in the canal and for assessing the power potential to be harnessed. This canal is in operation for about one and a half century. Thus the hydrology of the canal is well established. The canal runs for 66% to 70% of the period in a year.</p> <p>For about four months, the canal remains closed for maintenance work. Flood occurrence in the vicinity has not occurred since no major river or rivulets are flowing nearby. As such, design flood peak for sizing the system is not required.</p>
3.2	<p>All discharge and other relevant data have been obtained from Water Resources Department of the Government of Bihar. Eastern Link Canal originates on right side of Indrapuri Barrage and traverses a length of 10.9 KM from where the main Eastern Canal originates. Patna Branch Canal takes off at 11.60 KM point of the main Eastern Canal. The Belsar fall is located at a distance of 48.28 KM of the Patna Branch Canal. Belsar S.H.P. is proposed to be located at this fall site.</p>
3.3	<p>Due consideration of the data obtained from the Irrigation Department has been given while evaluating the discharge data and power capacity of the proposed S.H.P. The nearest rainfall observatory is located at Dehri-on-Sone, and for all purposes of design the same has been considered. The maximum and minimum annual rainfall in the region is 1718.6 mm and 567.6 mm respectively. Average annual rainfall is 1141.8 mm.</p>
3.4	<p>As estimated, 70% of the annual precipitation occurs during monsoon. The actual observed discharge data has been collected from the Irrigation Department. Based on this data the 10 days daily average discharge for each of the 10 years is computed in Table-A. Based on this monthly 10 days daily annual average data was calculated and is given in Table B. The percentage dependability and assessment of power potential has been calculated based on these data.</p>

3.5	Water in the canal is released from Inderpuri Barrage on river Sone. Presently there is no consumptive use of water on the U/S of the barrage. Nabinagar Thermal Power Station (2 x 500 MW) on right side of river Sone U/S of the barrage has been contemplated. Nabinagar Thermal Power Station is located at 25 KM U/S of the barrage. In between this and the off take point of Sone Canal System, there is no industry and no tributary to the Sone river.
3.6	In general, quality of water is good and also suitable for construction purposes. During monsoon period the river carries sand of fine to coarse quality. Test Report of Sone River water conducted for Nabinagar Thermal Power Station is hereby indicated in Table-C.

TABLE- A

BELSAR SMALL HYDEL POWER STATION
10 (TEN) DAYS AVERAGE DISCHARGE DATA IN CUMEDS

[illegible]

	II	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	III	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
JUNE	I	13.16	12.06	13.61	12.50	08.01	14.49	09.84	C.C.	12.89	16.93
	II	13.60	15.24	14.24	13.09	13.15	15.93	13.94	13.90	18.39	12.73
	III	18.03	17.43	17.32	16.50	22.97	19.24	05.52	22.04	21.50	16.55
JULY	I	28.02	26.70	30.88	34.38	27.54	31.93	08.76	35.11	23.93	26.35
	II	26.35	27.55	26.53	26.33	21.76	21.87	26.64	36.34	31.24	24.91
	III	33.10	34.08	31.19	34.30	33.42	27.72	29.35	40.77	37.12	34.81
AUGUST	I	32.90	33.08	43.59	38.11	21.97	37.32	29.22	41.93	10.88	40.88
	II	39.12	37.76	38.33	43.13	31.03	40.62	27.89	41.28	37.80	37.46
	III	40.62	38.18	39.47	39.61	37.71	38.10	37.64	42.91	40.30	39.49
SEPTEMBER	I	36.81	38.97	38.21	42.72	37.55	33.42	38.12	39.34	36.79	36.93
	II	39.83	36.93	46.78	43.01	42.87	36.64	36.64	31.70	39.47	29.98
	III	37.18	36.20	36.91	40.42	41.82	39.39	36.45	36.40	37.14	25.00
OCTOBER	I	35.32	33.46	37.57	32.31	38.41	35.05	28.82	33.97	36.12	32.82
	II	20.45	21.05	20.57	21.03	21.54	19.86	29.68	21.24	17.00	15.09
	III	32.03	34.21	10.12	30.01	38.31	41.49	23.52	39.92	41.91	39.66
NOVEMBER	I	20.18	22.02	22.02	21.05	20.98	20.35	02.10	26.30	18.50	37.46
	II	20.45	21.05	20.57	21.03	21.54	19.86	29.68	21.24	17.00	15.09
	III	26.42	28.24	27.02	28.28	27.52	26.52	27.33	C.C	C.C	C.,C
DECEMBER	I	12.85	13.05	13.66	12.51	13.02	14.03	C.C	12.95	C.C	11.53
	II	17.04	15.04	15.58	17.42	15.85	16.02	C.C	16.22	C.C	16.23
	III	15.47	16.45	14.85	15.06	16.02	14.75	07.34	23.73	15.31	16.62

(C.C. = Canal Closed).

TABLE – B

BELSAR SMALL HYDEL POWER STATION
10 (TEN) DAILY ANNUAL DISCHARGE DATA
(IN CUMEDS)

Month		Discharge	Month		Discharge
January	I	22.39	July	I	27.36
	II	13.98		II	26.95
	III	16.54		III	33.59
February	I	19.18	August	I	32.99
	II	16.01		II	38.44
	III	10.00		III	39.40
March	I	10.43	September	I	37.89
	II	17.48		II	38.38
	III	16.78		III	36.69
April	I	10.43	October	I	34.39
	II	17.48		II	35.11
	III	05.23		III	33.12
May	I	11.92	November	I	21.10
	II	07.22		II	20.75
	III	15.24		III	27.33
June	I	12.61	December	I	12.95
	II	14.42		II	16.22
	III	17.73		III	15.46

TABLE – C

SONE RIVER WATER ANALYSIS

S.No.	Item	Unit	Value
1.	Turbidity NTU	Ppm	About 30
2.	pH	No.	8.3
3.	P – alkalinity	Ppm	Nil
4.	Total alkalinity	Ppm	130
5.	Total Hardness	Ppm	130

6.	Calcium hardness	Ppm	80
7.	Temporary hardness	Ppm	130
8.	Permanent hardness	Ppm	Nil
9.	Total dissolved solids	Ppm	205
10.	Total suspended solids	Ppm	15
11.	Chloride as Cl	Ppm	6.5
12.	Sulphates as SO ₄	Ppm	30
13.	Silica as SiO ₂	Ppm	18
14.	Calcium as Ca	Ppm	34.4
15.	Magnesium as Mg	Ppm	12.1
16.	Sodium as Na	Ppm	21.2
17.	Potassium as K	Ppm	3.1
18.	Conductivity	Micro/Mho/cm/ppm	130

- 9.7 Water analysis can be considered for the design of turbine and other equipment taking into consideration silt/sand load carried into the stream during the period of monsoon.
- 9.8 For realistic formulation of the scheme, actual observed discharge obtained from the Water Resources Department, Government of Bihar has been taken into account. It may be mentioned here that the actual discharge flowing in the canal is less than the designed discharge of the canal.

CHAPTER – 4

DESIGN ASPECTS

4.1 COMPUTATION OF VARIOUS ALTERNATIVES INSTALLED CAPACITY:

4.1.1 DATA AVAILABLE:

4.1.1.1 The water and power potential study has been envisaged based on the data as under :-

- a. Dependable flow.
- b. Net head available.

4.1.2. DEPENDABLE FLOW :

4.1.2.1 The 10 days monthly discharge data for year 1986 to 1995 is available and based on this, the percentage dependability with respect to discharge has been computed and is given in Table-D.

As evident from the hydrological data of the canal, canal remains closed for four months in a year which has been considered in evaluating the flow discharge pattern.

4.1.2.2 From Table-D it appears that at 27.77% to 58.33%, the discharge varies from 33.00 cumecs to 16.75 cumecs. The corresponding power potential ranges from 925 KW to 470 KW and could be seen from Table-‘E’. This aspect has been considered in formulating the capacity of the unit so that reliability of utility of unit is maintained with optimum efficiency. Further elucidation has been indicated in Para 4.4 (INSTALLED CAPACITY).

4.2 HEAD AVAILABLE:

4.2.1 At Belsar fall site, net head of 3.25 metre is available, which is adequate to be considered for power generation.

TABLE – ‘D’.

SIPAHA SMALL HYDEL POWER STATION

AVERAGE DEPENDABLE DISCHARGE

Time per dependable		Mean discharge in cumecs
02.77	---	39.40
05.55	---	38.40
08.33	---	38.35

11.11	---	37.90
13.88	---	36.70
16.66	---	35.10
19.44	---	34.40
22.22	---	33.60
25.00	---	33.10
27.77	---	33.00
30.55	---	27.35
33.33	---	27.30
36.11	---	26.95
38.88	---	22.35
41.66	---	21.10
44.44	---	20.75
47.22	---	19.15
50.00	---	17.70
52.77	---	17.45
55.55	---	16.80
58.33	---	16.75
61.11	---	16.50
63.88	---	16.20
66.66	---	16.00
69.44	---	15.45
72.22	---	15.20
75.00	---	14.40
77.77	---	13.95
80.55	---	12.95
83.33	---	12.60
86.11	---	11.90
88.88	---	10.40
91.66	---	10.40
94.44	---	7.20
97.22	---	5.00
1000.00	---	0.00

- 4.2.2 The Sone Canal System is more than century old. The irrigation potential is under operation since then. The Sone Canal System is basically designed for irrigation purpose in its Command Area. In view of this, depending upon its topography, artificial falls have been provided at different intervals. Every fall structure is fitted with U-Groove. I-Section or Channels to regulate the head. The main purpose for providing fall is to maintain maximum level of water in the upstream of the fall so that there is proper gravity flow through irrigation vent/village distributories which generally are taken off in either or both sides of the canal at a distance of 200 M/300M in the upstream of the fall. Water in the canal in excess of the demand of irrigation/village distributory vents is drained to the down stream of the fall for utilization of the same for irrigation in the down stream of the Canal System. It is basically this excess water that is proposed to be utilised for power generation and the discharge data collected from the Irrigation Department and converted into 10 (ten) days daily discharge is basically this discharge of water. As explained, the maximum possible head is maintained in the upstream of the fall irrespective of increase/decrease of discharge, the head available at the fall site thus remains constant and this constant head is taken into consideration while calculating power potential of the fall site. The Turbine has also to be operated at a load corresponding to the discharge in a manner that the head of water does not get disturbed.
- 4.2.3 The existing irrigation channel will be disturbed in the design of S.H.P. to the extent explained in para 6.8 C.
- 4.2.4 For providing Power Channel, Power House and Tailrace Channel, the existing road going to the nearby villages will get cut. Moreover, the service road of the Canal in upstream and downstream of the existing fall will also get cut. Hence, provision has been made for D.L.R. on the existing road and S.L.R. on the service roads.
- 4.2.5 Power House will be located in the by-pass channel and tailrace channel will lead to the D/S in the main canal. There is a Temple on the D/S of the fall on right side of the canal. Hence, alignment of Tailrace channel has been kept avoiding this temple. Due to this reason, the length of Power channel/Tailrace channel has been kept avoiding this temple. Due to this reason, the length of Power channel/Tailrace channel is slightly increased so as to negotiate the contour of the bed of canal on down stream.
- 4.2.6 The existing fall structure would not be disturbed. There is no provision of gates, etc. on upstream of Power House in the Power Channel or in the Main Canal. Main Canal has provision for putting planks on the U-groove to maintain upstream head. Excess water due to surge action on sudden closure of the generating unit will be spilled through the ESCAPE made of concrete and masonry in the power channel upstream of the Power House and will be

drained to the tailrace channel through hume pipes. A lump sum cost has been provided in the estimate but detail design and engineering will be done at the time of execution of the project.

4.3 **Power Potential :**

4.3.1 With constant net head of 3.25 metre, flow and power potential has been computed and placed in Table-‘E’.

TABLE-‘E’

POWER POTENTIAL AT VARIOUS DEPENDABILITY

Per Dependability	Discharge in cumecs	Net Head in metre	Power potential in KW
2.77	39.40	3.35	1105
05.55	38.40	3.25	1077
08.33	38.35	3.25	1075
11.11	37.90	3.25	1063
13.88	36.70	3.25	1029
16.16	35.10	3.25	984
19.44	34.40	3.25	965
22.22	33.60	3.25	942
25.00	33.10	3.25	928
27.77	33.00	3.25	925
30.55	27.35	3.25	767
33.33	27.30	3.25	765
36.11	26.95	3.25	756
38.88	22.35	3.25	627
41.66	21.10	3.25	592
44.44	20.75	3.25	582
47.22	19.15	3.25	537
50.00	17.70	3.25	496
52.77	17.45	3.25	489
55.55	19.15	3.25	471
58.33	16.75	3.25	470
61.11	16.50	3.25	463
63.88	16.20	3.25	456

66.66	16.00	3.25	449
69.44	15.45	3.25	433
72.22	15.20	3.25	426
75.00	14.40	3.25	404
77.77	13.95	3.25	391
80.55	12.95	3.25	363
83.33	12.60	3.25	353
86.11	11.90	3.25	334
88.88	10.40	3.25	292
91.66	10.00	3.25	280
94.44	7.20	3.25	202
97.22	5.20	3.25	146
100.00	0.00	3.25	0

4.3.2 For Power Potential-computation 88% of overall average machine efficiency has been considered.

4.4 INSTALLED CAPACITY :

4.4.1 Selection of the installed capacities of the power house is based on the following issues :-

- i. Demand of Power
- ii. Running the machine for minimum period on part load.
- iii. Running one number of machine (out of two) for minimum period.
- iv. Total potential generated
- v. Increment in energy and cost benefit
- vi. Minimum expenditure without affecting generation.

4.4.2 The energy generated for different installed capacity varying from 600 KW to 100 KW has been computed and is placed in **Table-‘F’**.

It is evident from the Table-‘F’ that incremental benefit begins to fall for capacity beyond 800 KW. This has been elucidated in para 4.4.3 (below).

4.4.3 The annual energy generation for installed capacity of Units 600 Kw, 700 KW, 800 KW and 1000 KW works out 4956, 5282, 5638, and 5976 KWh (Kwh x 10³). The inter-difference in each two subsequent capacities is indicated in tabular form below :-

Installed Capacity	Annual energy generation (Kwh x 10³)	Inter difference in KWh x 10³).
600 KW	4956	-
700 KW	5282	326
800 KW	5638	356
1000 KW	5976	338

4.4.4 The C.E.A. guidelines regarding standardisation of unit size states as under :-

Turnines : Various types of turbines to suit the combination of head and output have been developed in the world. In India, Pelton, Turgo-Impulse. Francies, Kaplan and Propeller type of turbines have been developed to cover head ranges between small and high heads. For very small head also, the know-how is available in the country with the already established firms. Other firms, both in private as well as public sector have also shown interest in starting the manufacturer of turbines for micro/mini/small hydro installations.

In the interest of stadardisation, it is recommended that overall capacities of the unit may be choosen from the following :-

10 KW, 25 KW, 50 KW, 200 KW, 250 KW, 350 KW, 500 KW, 750 KW, 1000KW, 1500 KW, 2000 KW, 2500 KW, 3000 KW, 3500 KW, 4000 KW, 4500 KW and 5000 KW”.

4.4.5 As regards the decision for determining the number of units to be installed, Table-‘G’ with 2 x 500 KW capacity has been prepared according to which the total annual generation comes to 6033. 1 x 10³ KWh. Whereas as per Table-‘F’ if we install one unit of 1000 KW only, the total annual generation will be 5976 x 10³ KWh. Though there is no difference in the annual generation between options i.e. one unit of 1000 KW capacity and two units of 500 KW, but the utilization of higher capacity machine in comparison of two units of lower capacity (keeping the total capacity same in both alternatives) appears to be not fully utilized and actually becomes uneconomical (Refer Table – ‘F’ & ‘G’). The utilization of 1000 KW unit is limited to 86.115 dependability (on fully & part utilization inclusive) and beyond this, unit can not be operated being less than 30% minimum loading. The pertinent issue relates to the utilization of the unit at full discharge (35.80 cumecs), which in this case comes to on and above of 13.88% dependability being of very shorter period. It indicates this unit would run on part load from below 13.88% dependability to 86.11% dependability. As such this creates a wide gap in full utilization of the Unit.

In case of two units each of 500 KW the unit remains fully utilized for longer period and its scope of utilization upto 30% minimum loading also gets enhanced. One unit of 500 KW remains in full utilization upto 47.22% dependability and from 47.22 % dependability to 97.22% dependability the unit would run on part load. Simultaneously the second unit would run fully upto 13.88% dependability and on part load from 13.88% to 36.11% dependability. It indicates that smaller unit would be in this case, more useful in view of utilization and economy. As such two units each of 500 KW have been considered.

4.4.5 It has been envisaged to consider the following design data so as to have the maximum power from the proposed unit.

- i. The turbine will have capacity for the maximum discharge of 35.80 % cumecs and the constant rated head would be 3.25M. Since there are two units each of 500 KW, each unit have discharge capacity of 17.90 cumecs.
- ii. Annual energy generated per annum works out to $6033 \times 1 \times 10^3$ KWh against installed capacity of two units each of 500 KW.

4.4.6 **Load Factor :**

It has been envisaged that power house would run for 67% of the period in a year at 50% plant load factor. The system would be connected with the nearest grid near Daudnagar. As per present power scenario near the project site there is acute shortage of power in the vicinity. This S.H.P. will run at higher load factor but for all calculation 50% load factor has been adopted.

CHAPTER – 5**BASIC SYSTEM SCHEME**

5.1 This power station site is located at Belsar fall in the Patna Canal System. At Belsar fall there is also a provision for a separate channel for navigation system. This navigation system is not in operation since a very long time. The maintenance of the navigation channel has also, therefore, been abandoned by the Water Resources Department.

5.2 For this S.H.P. it is proposed to take out a canal from 180 M upstream of the fall on right side on the navigation canal. As it is proposed to install Syphon Intake Type Vertical Semi-Kaplan Turbine there will be no need for a gate at either in take of this bypass canal or at the gate of the power station.

In this S.H.P. there will be two units of 500 KW capacity each Syphon Intake Type Semi Kaplan Verticle Turbine coupled with a 500 KW Vertical Generator connected through reducing gear so as to enable to install a standard Geneator. The generation will be at 415 Volt, three phase, 50 CPS, 0.9 pf. From Generator Terminal 1100 V grade cable will be taken out and connected to the 0.415 KV, three phase, alumunium bus of adequaty capacity. There will be provision for grounding the neutral of both the generators but at a time only one generator neutral will be grounded. From 0.415 KW, three phase bus, which will be connected to both the generators, cable will be taken out for the outgoing feeder. As the inter-connection of this S.H.P. with the Daudnagar 33/11KV grid sub-station has been planned at 11 KV, there will be one 1250 KVA 0.415 KV/11KV, three phase transformer. In between the transformer and the 0.415 KV bus there will be draw out type air circuit breaker of adequate capacity. After the Transformer on 11 KV side there will be provision of vaccum circuit breaker and thereafter 11 KV air break switch. Lightening arrestor will be provided at the structure for taking off 11 KV line to protect the transformer and the power station from heavy electrical surges. There will be provision of adequate C.T.'s, P.T.'s metres and other protection system as hereinafter described in Chapter-7.

5.3 For auxiliary consumption one three phase line will be taken off from 0.415 KV bus which will be connected to a switch Fuse Unit and thereafter distributed for different purposes through Miniature Circuit Breaker of proper rating.

5.4 The general arrangement of the bypass channel showing the power station, switchyard etc. will be clear from Exhibit No.3.

5.5 The Single Line Diagram showing the electrical system arrangement is given as Exhibit No.7.

CHAPTER – 6**PLANT LAYOUT AND CIVIL STRUCTURES**

6.1 The Canal at the Belsar S.H.P. site located at 48.28 KM of Patna Branch Canal has two components :-

- i. Canal Lock System
- ii. Fall System in the Canal.

Function of the two system differ in nature apart from keeping the canal in running condition.

6.2 Canal Lock System :

This consists of a huge brick work structure accompanied with massive two numbers of wooden gate of U/S and D/S side in the canal. The use of the canal was limited to the navigation purpose only i.e. to allow the passage of boats/steamers. In the modern scientific age this has been abandoned and all structures and wooden gates are in dilapidated condition.

6.3 Canal Fall System :

Fall of suitable height is functioning in this level maintained according to the need of irrigating the field. The fall is also of huge brick work and steel channels are fixed, where wooden planks are placed as per requirement to control the water level. Excess water is allowed to spill over through this fall for the use of the down stream of the Canal.

6.4 Utilisation of the lock system canal was considered for installing of Power House at this site in view of economy but this proposal has been abandoned owing to the following facts :-

- a. Modernisation of the Sone Canal system which is in offing.
- b. Seepage water would be more in view of the hydraulic gradient as the power house will be very close to the fall system.
- c. Legal Aspect. Sone legislation will be required.

6.5 It has been contemplated to install Power House on the bypass channel. The bypass channel would emanate from the distance of 180 M on U/S of the fall and meet on the D/S of the fall through a Tailrace Channel.

6.6 Power House :

- 6.6.1 The locations of all the components of the Power House is so selected that it requires about 100 M wide strip of land in a length of 400 M adjoining the existing canal. The required area of land is available, which belongs to the Irrigation Department.
- 6.6.2 Power House consists of three essential constituents namely :- (i) Machine Hall or Unit bay; (ii) Control room ; (iii) Erection bay and Auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. The size of power House building will be 16 M x 12 M. The ceiling height of the building will be 8.0 M in order to facilitate the handling of equipments. Control Room, Battery Room, Office and Stores have been located separately.
- 6.6.3 The Power House building will be constructed in brick masonry with RCC stiffener provided at the suitable intervals. The roof will consist of precast R.C. slab with false ceiling on steel trusses. These trusses would rest on the RCC stiffeners. RCC lintels and bands would be provided at suitable interval so as to strengthen the whole structure . Adequate numbers of doors and windows will be provided for natural lighting and ventilation. RCC raft foundation has been contemplated for installing the machine, equipment. Trash racks will be provided at the up stream of turbines to prevent the entry of floating materials into the machine.

The Power House building would be provided with lightening arrester suitably along with the grounding cables under the foundation of the machine for grounding the lightening surges.

- 6.6.4 Power House is envisaged to be located on the power channel itself. Syphon Intake Semi-Kaplan Vertical Turbine has been proposed. As such, provision of forebay or penstock is not necessary. Water would enter into the Turbine through Syphonic action.

6.7 Tailrace Channel :

Tailrace channel would be lined and has been designed accordingly. Discharge would remain same as in the case of power channel leading to the down stream of the fall in the main canal.

6.8 Modification work on existing canal fall site :

- a. The existing fall in the main canal will be restructured and strengthened.
- b. Bridge : There is a bridge over the main canal and in continuation of this bridge on D.L.R. road bridge has been envisaged. This would facilitate the movement

of general traffic over the power channel. Hand rails would be provided on the D.L.R. (Refer Para 4.2.4).

- c. By the side of the existing main canal, irrigation canal is flowing and the position of this would be shifted. This channel would be constructed adjoining the power channel embankment so as to maintain the irrigation potentiality as it is.
- d. Approach road on both sides will be improved suitably so as to maintain the smooth movement of traffic.
- e. Provision of colony has been planned. This would accommodate the required staff for operation and maintenance Land required for the Colony is kept as 4000 M².

CHAPTER – 7**TECHNICAL SPECIFICATION AND
ELECTRICAL & MECHANICAL EQUIPMENT****7.1 TURBINE :**

- 7.1.1 For a low head machine which is needed for this project, it is a general practice in India to use Horizontal 'S' Tubular Turbine due to easy maintenance and better efficiency for low head installation. This choice is limited upto runner dia upto 3 metres. For a runner dia above 3 M Bulb type offers the most economic solution. As the runner dia in this case will be less than 3.00 M, the first choice goes for Horizontal Tubular Turbine.
- 7.1.2 The tubular Turbine is a slow speed machine and it generally requires a gear box for speed increase in order to use a standard generator. Generally there is efficiency drop (1 to 2%) in the gear box. For Tubular Turbine there are four options i.e. Kaplan, Semi-Kaplan, Propeller with adjustable guide vanes, and Propeller type machine. In case of Propeller or Propeller Type Turbine, the efficiency range of operation is limited to 80% to 120% variation in head and 75% to 115% variation in discharge. In this particular case, the variation of head is negligible and there is only variation in discharge. The use of Propeller Turbine is, therefore, ruled out.
- 7.1.3 Kaplan Turbine has adjustable runner blades and guide vanes. In order to accommodate the runner blade adjustable mechanism in the runner home, the size of runner should be large enough. The Turbine is best suited where there is wide variation in head and/or discharge and its efficiency over a wide range of partial load is very good. Butterfly valve (BFV) for shut off purpose is not required in this type of turbine as the guide vanes themselves will close the turbine. The cost of this type of turbine is high.
- 7.1.4 Semi-Kaplan turbine has fixed guide vanes and adjustable runner blades. The necessity of large dia runner to accommodate mechanism for adjustable runner blade remains the same as for Kaplan turbine. Butterfly valve is required for shut off purposes. This type of turbine is less complicated than Kaplan turbine. The efficiency range of operation is limited compared to the Kaplan turbine. The cost of butterfly valve is, however, considerable with the result that the overall cost of the machine sometimes becomes as high as that of Kaplan turbine which is more efficient over a wide range of operation than Semi-Kaplan turbine.
- 7.1.5 Now verticle Semi-kaplan turbine with Syphone intake with adjustable runner blade and fixed guide vane are being very frequently used. Moreable runner blade is controlled by a hydraulic

servomotor. The runner blades are adjusted to accommodate the variation in flow of water through the turbine and consequent control of load on the machine. This is achieved by movement of piston of runner servomotor. This also eliminates provision of intake/draft tube gates. By adopting proper control of opening of runner blades the load on the machine will be adjusted such that the level of water in the upstream of the fall will remain undisturbed. In this case also a gear box is used between the turbine and generator for using standard generator and in this case also the efficiency comes down by 1 to 2% due to gear box. In this case the investment cost is also less as the cost of machine as well as the cost of civil works in construction of power station is less. As the name suggest, the Verticle Turbine with Syphon intake operation on the Syphon Principle i.e. the intake flume chamber valve is closed and made water tight and vaccum is created by a pump which enables water to enter the flume chamber and energies the runner. When the machine reaches synchronous speed this is synchronized with the grid like any conventional turbine. Shut down is brought about by following the reverse procedure i.e. by breaking vaccum. Since turbine operates on Syphon Principle, it is not necessary to have Intake and Draft Tube gates thereby reducing the cost. The drawing showing Step-I, II & III fully explain how the machine operation is started by creating Syphon Intake.

- 7.1.6 The Syphon Intake seimi Kaplan Vertical Turbine can run at even 30% minimum load without the problem of cavitation. Its efficiency at this minimum load goes down to 76% only.
- 7.1.7 Though for this project constant head will be available this type of turbine is suitable for variable head also.
- 7.1.8 Generally there are following advantage of this type of Turbine :-
- i. Elimination of Intake and Exit gates.
 - ii. Low operation cost as the equipment does not need trained and skilled personnel. Also the hydro power station may run virtually unattended in case a micro processor controlled system is used.
 - iii. Elimination of dewatering and drainage system.
 - iv. Reduction in power house size.
 - v. Reduced risk of run away speeds.
 - vi. Easy accessibility of runner through a manhole located on the upper side of the flume chamber wall.

- vii. Considerable reduction in overall project costs.
- viii. A more reliable and safe machine.

7.1.9 Given below is the comparison between the Vertical Syphon and Tubular 'S' Type Horizontal Turbine .

'S' Type Horizontal Turbine		Vertical Syphon Turbine
Floor level is always below the head water level and thus problem of seepage water from upstream side.		There is no such problem as the floor level is above Highest Water Level (HWL).
Shaft runner and guide bearing are located much below the upstream water level and thus it is difficult to approach the same as there will always be some leakage through gates.		There is no such problem as the floor level is above HWL.
Dismantling and assembly of shaft is very cumbersome as well as time consuming. Long shaft lengths add to this problem.		Dismantling of shaft and reassembly is very simple and quick.
There is always some leakage of water through the glands during running as well as stand still condition as it is continuously under pressure.		There is no such problem in case of Vertical Syphon Turbine.
Complete weight of runner and part of shaft comes on guide bearings, therefore, its design and selection is very critical. It has been realized that there is a greater tendency of failure in the main guide bearing in horizontal shaft turbine due to the entry of silt in the bearings.		This type of problem is not associated with vertical type arrangement.

The replacement of guide bearing is quite trouble some as it is located inside the tubular casing and it needs special supporting fixtures for shaft before replacement.		There is no such problem as the guide bearing is approachable from the power house floor and is made in two split parts.
During floods, power house will be completely submerged.		In such case power house floor is always above HWL, hence the equipment are out of water.
It is difficult to stop the turbine rotation if gates have been stuck or seals have been damaged or silt has been accumulated on the sill beam. In such case the turbine continues to spin at high speed which could be extremely damaging to the turbine rotating parts.		Such problems are never faced as the machine can be brought stand still condition by just breaking the siphon.
The size of power house is large		The power house is compact in size.
Intake and draft tube gates are essential		No intake and draft tube gates required.
The cost of civil works are high		The cost of civil works is low.
More maintenance required as 'S' type turbines are more prone to faults.		Low maintenance is required as the turbine is less probe to faults.
Erection of T.G. equipment requires more time after civil works completion.		The T.G. equipment can be installed in a very short time after completion of civil works.
Turbines are mostly used for heads above 3 M upto 20 M.		Turbines are ideally suited for heads between 2 M and 5 M because of siphon system adaptability.

'S' type turbine requires minimum straight length of intake channel leading to higher civil cost.		No such constraint of length of intake channel, thus reducing civil costs and allowing for cost effective layout.

As the machine size has been decided to be 100 KW in para 4.4.6 of this DPR it is recommended to have 2 x 500 KW vertical semi-kaplan turbine with Syphon intake for this power station.

7.1.10 The guidelines of .E.A. for preparation of D.P.R. does not take into account this type of turbine when the guideline was prepared in the year 1982 this technology had not been developed. Such turbines are in use in Punjab, Andhra Pradesh and in Orissa. This type of turbine is most economical and suitable for installation in canal fall sites. It is, therefore, recommended to have Vertical Semi-Kaplan Turbines with Syphon Intake for this power station.

7.1.11 TURBINE COMPONENTS :

Vertical Semi-Kaplan turbine with Syphon intake will generally consist of the following :-

- Runner
- Shaft
- Head cover
- Discharge Ring
- Distributor
- Draft tube
- Chassis
- Coupling between turbine and gear box
- Coupling between gearbox and generator
- Servomotor for runner blades
- Hydraulic pumping unit
- Grease Pump/Cooling Water System
- Vacuum Pump with Dewatering Valve
- Electronic Governor

Short description of important parts of the Turbine is given below :-

Runner :

The turbine runner will be fitted with $\frac{3}{4}$ adjustable blades in stainless steel mounted on a steel hub.

The runner blades will be adjustable so that the turbine can operate over a wide range of flows while maintaining good efficiency.

The blade motion mechanism will be located inside the steel hub.

The blade bearings will generally be made of 'Orkot', a self-lubricating material with high mechanical resistance.

Seals will prevent water from entering the hub area where the blade serve mechanism is located.

All the parts – blades, etc. are geometrically profiled, shaped and surface finished.

Prior to shipping the turbine, the runner blades will be carefully balanced.

TURBINE SHAFT :

The turbine shaft is fitted with flanges for coupling the runner and speed increaser. This shaft is bored in order to accommodate the blade control rod for adjustability.

The shaft bearing is located inside the headcover, just above the runner. It is antifriction type, continuously lubricated by an external grease/water pump. The bearing material shall be THORDON/WHITE METAL and the bearing housing is in two halves so that it can be installed or removed without having to remove the shaft itself. Sealing is provided by a Teflon packing located above the shaft bearing. This concept allows for continuous lubrication of the seal to avoid any manual maintenance.

DISCHARGE RING :

The discharge ring will be fabricated from mild steel and will be machined in order to keep the gap between the blades and discharge ring as narrow as possible. Its semi-hemispheric profile provides a maximum efficiency through the turbine runner.

HEAD COVER :

The head cover has two functions :

- Hydraulically : The head cover assists the hydraulic shape of the distributor and provides the seal for the spiral casing.
- Mechanically : the head cover supports the shaft bearing and shaft seal, and therefore, the runner. It is bolted to the distributor and can be removed easily for access to the runner.

DISTRIBUTOR :

- Distributor will be fitted with fixed wicket gate which direct and orient the water flow towards the runner.
- All the surface of the wicket gates will be smooth, free from any defect and each wicket gate is partially machined on each side.

SPEED INCREASER:

The speed increaser allows for the connection of the runner and generator. The speed increaser obtains a higher speed on the exist shaft. The multiplication ratio is calculated in such a way as to obtain the high speed shaft a speed close to the generators speed.

DRAFT TUBE :

The draft tube shall be made of mild steel.

7.1.12 DEWATERING AND DRAINAGE SYSTEM :

In principle dewatering system is not required since all mechanical components are out of water when the machine has stopped. It is not necessary to dry the flume chamber or the draft tube.

7.1.13. HYDRAULIC PUMPING UNIT:

The hydraulic pumping unit consists of a oil reservoir and the pump which command and control elements of the hydraulic circuit. The pump feed the servo motor circuit.

The Pumping unit includes the following equipments :-

- One hydraulic mechanical pump.
- Two hydraulic electro pumps (one main & one standby)
- Electro valve to open and close the blades and guide vanes.
- Pressure control valves.
- Filters
- Flow reducers to set the opening & closing time
- Motometers.
- Oil level control switch.
- Bearing lubrication system.
- Misc. accessories.

7.1.14 TURBINE CONTROLS :

The Turbine will have the following controls :-

Sl. No.	Description
a.	Gate limit control
b.	Auto manual selection switch.
c.	Speed level controller Electronic
d.	Manual turbine gate control Governor
e.	Turbine bladed lock built in
f.	Water Level control feature.
g.	Overspeed control
h.	Control for oil pump motor
i.	Turbine shut down control

7.1.15 TURBINE SAFETY DEVICES:

The Turbine will have the following Safety devices :-

Sl. No.	Description
a.	Turbine Guide Bearing Cooling Water flow or Lube Oil flow.
b.	Governor oil pressure low
c.	Unit over speed shut down.
d.	Pressure tank oil pressure failure
e.	Manual emergency shut down.
f.	Gear Box bearing temp. high

g.	Gear box lube oil pressure low
h.	Turbine guide/trust bearing temperature

7.1.16 **TURBINE INDICATION/RECORDING INSTRUMENTS:**

The Turbine will generally have the following indications/recording instruments:-

Sl. No.	Description
a.	Pressure of shaft seal cooling water.
b.	Gate limit and gate position indicator.
c.	Unit speed indication.
d.	Over speed indicator.
e.	Speed level setting indicator
f.	Speed droop-setting indicator.
g.	Upstream/downstream water level indicator.
h.	Unit output meter for power and energy
i.	Unit voltmeter
j.	Unit ammeter
k.	Pressure of regulating oil pressure system
l.	Level of oil in pump tank
m.	Pressure of standby oil pump
n.	Standby oil pump in operation.
o.	Turbine bearing temp.
p.	Gear box bearing temp.
q.	Indication of runner blade.

7.2 **GENERATOR:**

7.2.1 Where Electricity Grid is strong and stable it has become a practice to use induction generator as this is cheaper in construction, easy for operation as well as this eliminates the use of Governor and excitation system which considerably reduces the cost. In the case of this S.H.P. though the power is proposed to be fed to 33/11KV Sub-station at Daudnagar of the Bihar State Electricity Board, the grid is not stable and very often there is no power available in the grid in which case machine will be idle. Hence, even though induction generator would be a

cheaper proposition, the same can not be used in this case. Naturally choice, therefore, goes to Synchronous Generator.

7.2.2 It is proposed to install two synchronous generators of 500 KW capacity each three phase 50 C.P.S., power factor 0.9. The speed of the Generator will depend on the manufacturer as it will be depending on the speed of the Turbine and the speed of the Speed Increaser. For this small size generator voltage of 415 V is economical and hence, generation voltage will be 415 V only. Moreover, this eliminates use of power-transformer for auxiliary consumption. The excitation system will be brushless using static excitation system with thyrister. The Synchronous generator will be able to operate in isolation as well as in parallel with the grid. For this, synchronizing equipment will also be provided. The generator will be able according to International standards with reference to special customer's requirements and latest I.E.C.C. recommendations. It shall be vertical type with I.P.-23/IC-01 degree of protection with its own air ventilation. The windings shall be insulated with Class 'F' insulation with temperature rise limited to class 'B' insulation. The Generator bearings will be pedestal mounted self oil lubricated sleeve bearing as sleeve bearings life will be more than 100000 working hours. The bearings will be adequately insulated to prevent any harmful circulating current. The bearings shall also be suitable to withstand the runaway speed upto 15 minutes. The generator shall meet the requirements of B.I.S. – 4722/92 and shall deliver rated output with temperature rise limited to 80⁰C over an ambient of 50⁰ and shall also be suitable to deliver 10% more power than the rated output continuously with temperature rise limited to 100⁰ C on ambient of 40⁰ C by E.T.D.

7.2.3 **COOLING OF THE MACHINE ;**

The Generator shall be enclosed in screen protected drip proof enclosure i.e. (IP-23/IC-01). The Generator shall be air cooled.

7.2.4 Each Generator will generally consist of the following parts :-

- Generator stator complete with frame, soleplates, stator core, winding with accessories and terminals.
- Generator rotor, complete with shaft, spider rim, pole with windings and accessories.
- One set bearing.

- One set of anti condensation spare heaters.
- One set air guides.
- One set brushless excitation unit with AVR.
- One number base plate to mount the generator
- One set stator winding RTDs with terminals brought out in separate RTD terminal box.
- One set dial temperature with electrical contacts for alarm and trip for bearing.
- One number RTD/BTD per bearing for temperature indication of bearing oil bath.

7.3 **LT SWITCHBOARD AND GENERATOR CONTROL PANEL:**

The LT Switchboard will be sheet steel enclosed cubicle of 3 mm sheet for doors and 2 mm sheet for rest of the panel, free standing, floor mounting type dust and vermin proof for operation at 415V, 3 phase, 4 wire, 50Hz AC having aluminium busbar of rating 1600 A and neutral of half the rating generally comprising of the following equipment/accessories duly fitted and wired as required.

QUANTITY	DESCRIPTION
1 No.	Incoming panel with generator & turbine control panel each equipment with :
1	Triple pole electrically operated drawout type air circuit breaker of 1150 A, 30 KA rating at service voltage 415V having adequate breaking capacity with main arcing contacts, arc chutes, deion grids with mechanical ON/OFF indicator. The breaker shall be provided with instantaneous magnetic release thermal overload and shunt trip coil suitable for 24V DC and provision for tripping the breaker from remote push button or from relay contacts.
1	Generator neutral isolating switch of rating 800 A (TP) with all poles shorted mounted at rear of panel with pad-lock arrangements.
1	MISC. ammeter range 0-800A flush mounting type with 3 way voltmeter selector switch having off position.

1	Power factor meter range 0.5 – 1-0.5 flush mounting type.
1	Reed type frequency meter range 45-50-55 Hz flush mounting type.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
1	Triple pole over current relay (51V)
1	Negative phase sequence relay (46)
1	Over voltage relay (59)
1	Under voltage relay (27)
1	Check synchronizing relay (25)
1	Generator differential relay (87 G)
1	Stator Earth fault relay (64G)
1	Loss of excitation relay (44)
1	Reverse power relay (32P)
1	Surge diverter

7.3.1 **CONTROLS :**

The following controls will be provided :

- a. Emergency off push button (Mechanical)
- b. Generator anti-condensation heater ON & OFF switch.
- c. Panel heater ON and OFF switch.
- d. Alarm acknowledge push button
- e. Healthy trip circuit test push button
- f. Reset push button.
- g. Generator low oil pressure
- h. Breaker ON/OFF push buttons
- i. Voltage rise/lower spring return switch.

7.3.2 **INDICATING LAMPS:**

The following indications will be provided on the control phase :

- a. Incoming circuit breaker on

- b. Incoming circuit breaker off
- c. Auto trip-electrical fault
- d. Auto trip mechanical fault
- e. Governor low oil pressure trip contact bypass
- f. Healthy trip circuit
- g. DCC supply fail
- h. Turbine bearing temperature high
- i. Generator anti-condensation heater ON

7.3.3 The switchboard will have following provisions :

<u>QUAANTITY</u>	<u>DESCRIPTION</u>
1	8 point micro processor based temperature scanner for generator stator winding and generator bearing temperature with alarm and trip setting.
1	Panel heater with suitable thermostat.
6	Single core current transformer ratio 800/5A class of accuracy PS for generator differential relay.
3	Double core current transformer ratio 800/5/5A Core – 1 : Accuracy class 5 P10 and burden 15 VA for protection. Core – 2 : Accuracy class 1.0 and burden 15 VA for metering.
1	Single core current transformer ratio 800/1A accuracy class 1.0 and burden 10 VA for droop measurement.
1	Voltage transformer ratio 415/V3/110/V3 C, burden 100 VA, accuracy class 1.0 for protection.
1	16 window annunciation shall be provided for following fault annunciation :

- a. Differential relay trip.
- b. Over current relay trip.
- c. Reverse power trip
- d. Over voltage relay trip
- e. Negative phase sequence relay trip
- f. Generator bearing temp. trip

- g. Generator stator winding trip
- h. Over speed trip
- i. Governor oil pressure low
- j. Emergency shut down
- k. Spare window 5 nos.

7.3.4 The following provisions will also be made in the Switch board panel :

QUANTITY	DESCRIPTION
20	Auxiliary relays for annunciation and tripping circuits.
3	Surges divertors on main busbar.
1	Overspeed switch assemble and indicator
1	Automatic Voltage Regulator (AVR).
1	Automatic Power Factor Regulator
1	Voltage adjust motorised potentiometer
1	Auto manual changeover switch
1	Contactors
1	Rectifier Assembly
1	Motorised Variac
1	3 – Winding transformers

7.3.5

2 Nos.	415 V Transformer control panel equipped with
1	Air Circuit breaker 800 A, 30 KA, 415 V.
1	MISC. ammeter range 0 – 800 A, flush mounting type, with 3 way selector switch having off position.
1	KW meter range 0-600 KW, flush mounting type. Suitable for 3 phase, 4 wire system.
3	Double core current transformer ratio 800/5/5 A, burden 15 VA accuracy class 1.0 for metering and 5 P 10 for protection.
Quantity	Description
1	Feeder ON indicating lamp.
1	Feeder OFF indicating lamp.
1	Emergency OFF push button (Mechanical)
1	Panel heater ON & OFF switch

1	Panel inside illuminating lamp with switch
1	Breaker ON & OFF push buttons

7.3.5 **STATION AUXILIARY PANEL:**

This will generally consist of the following provisions :

1	Switch fuse unit of rating 250 A with thermal setting at 150 A.
1	Emergency off push button (Mechanical).
6	Miniature circuit breaker rating TPN 63A, 415V.
8	Miniature circuit breaker rating TPN 20A, 415VA.
10	Miniature circuit breaker raing SPN 16A, 415 V.
18	Indicating lamps
1	Panel heater with thermostat
1	Panel inside illuminating lamp.
1	MISC Ammeter with range 0 250 A, flush mounting with selector switch.
1	KWH meter, flush mounting suitable for 3 phase 4 wire system
2	Breaker ON/OFF push buttons
1	Earth fulat relay
10	Miniature circuit breaker rating tPS 32A, 415 V.
3	Current transformer ratio 400/5 A, class 1.0 burden 5 VA for ammeter.
1	Current transformer 800/5, class 5 P10 burden 10 VA for E/F placed in neutral line

7.3.6 **SYNCHRONISING BRACKET:**

The Synchronising Bracket will be mounted on left hand side of the panel and shall be of swinging type and will have following provisions :

QUANTITY	DESCRIPTION
1	Synchroscope
1	Double voltmeter
1	Double frequency meter
1	Synchronising check relay (25) with guard relay

1	Synchronising selector switch
1 SET	Auxiliary relays
1	Synchronising lamp.

7.4 **POWER EVACUATION SYSTEM :**

7.4.1 As B.H.P.C. is not distributing power under licence from the Government and is mainly responsible for development for Hydel Power in the state, the power generated from this Power Station will be supplied to the grid of the Bihar State Electricity Board, who are responsible for power distribution in the State. The nearest 33/11 KV Sub-station is at Daudnagar and therefore, single circuit 11 KV line will be constructed between this S.H.P. and the Daudnagar 33/11 KV Sub-station of B.S.E.B. the length of the line will be Km and will be constructed on PSC 400 KG Pole with ACSR weasel conductor.

7.4.2 As the generator voltage is 0.415 KV power transformer of 1250 KVA capacity, 0.415/11 KV, 3 phase, 50 cps will be installed in the switchyard. For control of this transformer and the 11 KV transmission line the following provisions will be made in the switch yard.

	DESCRIPTION	QUANTITY
1	12 KV 1250 A, 30 KA outdoor vacuum circuit breaker	1 no.
1	1000 Amps. 11 KV Air Break Isolating Switches with Earth Switch outdoor type manually gang operated, double breake type complete with operating mechanism.	1 no.
3	Four core CTs on 11 KV side of Ratio 1200/5/5 A: Core 1 : Burden 30 VA, Class 1.0 for Metering. Core 2 : Burden 30 VA, Class 5 P 10 for Protection.	3 nos.
4.	Lightning Arrestors of 12 KV, 10 KA rating	3 Nos.
5.	Single Potential Transformers of ratio 11 KV/v3/110 V/v3 Core 1 : Burden 100 VA, Class 1.0 for Protection & Metering.	6 nos.
6	Structures for LA, 11 KV Breaker CTs, PTs and Isolators	1 set
7.	Earth Switch	1 set
8.	Earthing system for switchyard	1 set
9.	ACSR conductor, clamps, connector, etc.	1 set
10.	Cabling	1 set

The terminal equipments at B.S.E.B. grid sub-station at Daudnagar will be provided B.S.E.B. and therefore, it has not been taken into account in the estimate.

7.5 L.T. POWER AND CONTROL CABLES:

7.5.1 L.T.A.C. POWER CABLES:

660/1100 V grade, 1 no. 3 core, 500 x 2 sqr. mm PVC sleeve Aluminium armoured conductor for interconnection between Generator and 415 V Incoming Panel and Neutral Grounding Cubicle with suitable flexible connections and jumpers.

660/1100 V grade 1 no., 3 core, 500 x 2 sqr. mm. PVC sleeved Aluminium armoured conductor for interconnection between 415V Switchgear and step up Power Transformer Primary with suitable flexible connections and jumpers.

660/1100 V grade PVC insulated 3 $\frac{1}{2}$ core, 150 dqr. Mm Armoured Aluminium conductor power cable for interconnection between L.T. Panel and L.T. Station auxiliary panel (MCC).

660/1100 V grade PVC insulated 3 core, 150 sqr. mm Armoured Aluminium conductor power cable for interconnection between 415 V Switchgear and MCC Panel Lighting MCC>

7.5.2 L.T. CONTROL CABLES:

660/1100 V grade PVC insulated standard copper conductor armoured cable for interconnection between field equipments and control panel including motors and MCC panel, CT/PT secondary connections and between various control panels to make the system complete for the equipment.

The following sizes of cables may be used :

- (i) 3 C x 10 sqqr. Mm
- (ii) 3 C x 4 sqr mm
- (iii) 2C x 2.5 sqr mm
- (iv) 14C x 1.5 sqr mm
- (v) 7C x 1.5 sqr mm
- (vi) 3C x 1.5 sqr mm

Control cables upto 2.5 sqr. mm shall be solid conductor and above 2.5 sqr mm the conductor shall be stranded.

All control conductors shall be of copper.

7.6 **C.D. SYSTEM:**

7.6.1 DC power will be required for control and enunciation purpose. For this 24 volt, 48 ah capacity battery with provision of trickless charger, float charger, booster charger will be provided.

7.6.2 **D.C.DISTRIBUTION SYTEM:**

There will be five outgoing feeders and this distribution will consist of double pole DC on/off switch for outgoing feeders, flues base HRC link indicating valves.

Typical Schematic diagram for 24 V DC System is given in Exhibit No. 8.

7.7 **LIGHTING SYSTEM:**

7.7.1 The lighting system will be designed as per relevant IEC or IS standards. The lighting system may generally consist of the followings :-

a.	Industrial type fitting with 2 x 40 W fluorescent lamp	10 nos.
b.	Industrial type fitting with 1 x 40 fluorescent lamp	4 nos.
c.	Street light fitting with 150 W lamp for the outer area of power house	10 nos.
d.	3 phase industrial outdoor type power outlet	1 no.
e.	250 W flood light high pressure sodium vapur lamps for switch yard	2 nos.
f.	Emergency light fitting of 20 DW	4 nos.
g.	5A, 1 PH flush type socket	14 nos.
h.	15A, 1 PH industrial socket	14 nos.
i.	Junction box suitable for 4 way entry	20 nos.
j.	63A, metal clad, welding power socket	1 no.

7.8 **VENTILATION:**

7.8.1 Power House Ventilation System will consist mainly of exhaust fan, ceiling fan and pedestal fan. As this S.H.P. is located in a hot climate one 1.5 ton air conditioner will be required for its Control Room. The ventilation system will, therefore, consist of the following :-

- | | | |
|----|---------------------------|---------|
| a. | 250 W wall mounted fan | 10 nos. |
| b. | 250 W pedestal fan | 09 nos. |
| c. | Ceiling fan | 06 nos. |
| d. | 1 1/2 ton air conditioner | 01 no. |

7.9 FIRE FIGHTING SYSTEM:

7.9.1 This power station very small, it will be provided only with portable fire extinguishers. Generally the following fire fighting equipment will be provided in this power station :-

- | | | |
|----|--|---------|
| a. | Foam type 9 litre capacity fire extinguishers | 10 nos. |
| b. | CO ₂ type 6.5 kg capacity fire extinguishers trolley mounted | 09 nos. |
| c. | CO ₂ type 22.5 kg capacity fire extinguishers trolley mounted | 2 nos. |

7.10 EARTHING:

The earthing system will be designed with fault current of 40 KA and soil resistivity equal to 20 ohm-mtrs. The calculation for earth mat will have to be done as per IS:3042/1987. The duration of fault for calculating design of earth mat will be taken as T= 1.09 sec. At the time of designing this earth mat, however, the resistivity has to be measured and design should be done accordingly.

7.11 EMERGENCY POWER :

This S.H.P. will be connected to the grid and so long as there is power in the grid even if the S.H.P. is not in operation AC power will be available at this S.H.P. and there will be no problem of lighting and for charging of the DC battery system. There may, however, be occasion when the S.H.P. is under shutdown and either due to trouble in the B.S.E.B. grid or due to trouble in the 11 kV line connecting this S.H.P. with the B.S.E.B. grid sub-station, there will be no power available for a few days.

In such circumstances, power will be needed for emergency lighting and for charging of the battery system. It is, therefore, proposed to install a 30 KVA, three phase, 50 cycles per sec.,

0.415 KV Diesel Generator set to be installed in this power station. Provision has, therefore, been made in the estimate for this Diesel Generating unit with its control board.

This Generating Set will also be used during construction of the Power Station.

The Exhibit No. 9 gives the typical schematic diagram of emergency supply.

- 7.12 The Triveni Engineering and Industries Limited, New Delhi, who are manufacturers of this type of Turbine have, after considering all the aspects including specific speed of design to be adopted for this project, suggested the following parameters of Turbine, speed increaser and Generator.

Characteristics of the equipment

(A) Turbine (2 units of 500 KW each)

Type – Vertical Semi Kaplan Turbine with siphon intake.

Technical Characteristics of each turbine

Rated net head	:	3.25 Meters
Design flow (Discharge):		17.70 cumecs (each unit).
Rated Power	:	500 KW (at Generator).
Runner diameter	:	2400 mm (approx).
Runner speed	:	135 R.P.M.

(B) Speed Increaser :

The speed increaser increases the speed from the Turbine rotation speed to match the Generator speed.

Configuration	:	Vertical
Turbine	:	135 R.P.M.
Generator speed	:	1000 R.P.M.
Speed Increaser ratio	:	7.41

© Generator :

The Generator shall synchronous type with the following characteristics.

Capacity	:	500 KW
Voltage output	:	415 V
Rated speed	:	1000 R.P.M.

Frequency	:	50 Hz
Insulation	:	Class 'F'
Configuration	:	Vertical

N.B. : The above parameters will be reviewed at the time of detailed design & Engineering.

CHAPTER – 8

CONCEPTUAL DESIGN OF CIVIL STRUCTURES

8.1 Design of Civil Works

8.2 The Sipaha S.H.P. consists of the following major structures :

- (i) Head race channel & ESCAPE.
- (ii) Power House
- (iii) Tailrace channel
- (iv) Modification work on existing canal fall.
- (v) Approach road, bridged and irrigation channel.

8.3 The geometric design of the project has been envisaged in such a way that the power potential of the fall is utilized in efficient and systematic way. The layout of power house and its allied components is proposed to be located in the bypass channel. The head race bypass channel will lead from the upstream of the existing fall of the main canal and will be concrete lined. The down stream channel called tailrace channel will lead the water into the main channel down stream of the existing fall. The tailrace channel will be also lined.

8.3.1 The Power House will be equipped with trash rack arrangement to arrest logs etc. At the time of emergency tripping of the turbine, vacuum will be broken and thus water flow to the turbine will stop. There will be no need of a gate in the power channel at entry of the power house and in the tailrace.

The head race channel and tailrace channel, though located in the bypass channel, have been kept close to the main canal in view of economy as in this case length of the head race channel and tailrace channel will be smaller.

8.3.2 ESCAPE:

In case of sudden tripping of the generating unit, due to surge action the level of water in the power channel as well as in the canal will rise and may also damage its banks. For this free board of 1.00 M has been provided in the power channel. The normal practice would have been to remove planks from the structure at the fall by electrical device in such circumstances but

there may be a case when there will not be power available after tripping of the machine and it will take time to run the diesel generating sets available in the power station. It is, therefore, proposed to provide as ESCAPE made of concrete and Masonry in the power channel upstream of the power house and the excess water will be spilled through the ESCAPE and drained to the tailrace channel through hume pipe. A lump sum cost has been provided in the estimate, but detail design and engineering will be done at the time of execution of the project.

8.4 Design of Headrace Channel :

Power channel will be concrete lined and of trapezoidal section.

Design Data :

$$Q = 35.80 \text{ cumecs}$$

$$N = 0.018$$

$$\text{Side slope} = 1:1.5$$

$$\text{Bed slope} = 1 \text{ in } 5000$$

$$\text{Limiting Velocity } V = \left(\frac{Q}{4 K_1 K^2} \right)^{0.25}$$

$$\text{Where } K = \frac{n}{S^{3/2}} \text{ and } K_1 = (2 s^2 + 1 - 2)$$

$$K = \frac{(0.018)^{3/2}}{1/5000} = \frac{(0.018)^{3/2}}{0.0141} = 1.44$$

$$K_1 = (2 s^2 + 1 - s) = (2 \cdot 0.67^2 + 1 - 0.67) = 1.73$$

$$V = \left(\frac{35.80}{4 \times 1.73 \times 1.44 \times 1.44} \right)^{0.25}$$

$$= (2.4949)^{0.25} = 1.257$$

$$\text{Let } V = 1.10 \text{ M/Sec.}$$

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

$$1.10 = \frac{1}{0.018} \times R^{2/3} \times \left(\frac{1}{5000} \right)^{1/2}$$

$$= \frac{1}{0.018} R^{2/3} \times 0.01414$$

$$R^{2/3} = \frac{0.018 \times 1.10}{0.01414} = 1.40^{54}$$

$$R = 1.656$$

$$A = \frac{35.80}{1.10} = 32.545$$

$$P = \frac{32.545}{1.656} = 19.65$$

Adopting trapezoidal section & side slope 1.5 :1

$$\cot Q = 3/2$$

$$\cot^{-1} 3/2 = 34.1^\circ = 0.59 \text{ radians}$$

$$A = \frac{BD + D^2 \cot Q + D^2}{\cot Q}$$

$$P = \frac{B + 2 D \cot Q + 2 D^2}{\cot Q}$$

$$R = \frac{BD + D^2 \cot Q + D^2}{B + 2 D \cot Q + 2 D^2} \cot Q$$

Substituting the value of Q & Cot Q

$$R = \frac{BD + 2.09 D^2}{B + 4.18 D}$$

$$A = \frac{BD + 2.09 D^2}{\cot Q} = 32.545 \quad (1)$$

$$P = \frac{B + 4.18 D}{\cot Q} = 19.65$$

$$B = 19.65 \cot Q - 4.18 D$$

Substituting this in equation (1) above.

$$D (19.65 \cot Q - 4.18 D) + 2.09 D^2 = 32.545$$

$$19.65 D \cot Q - 4.18 D^2 + 2.09 D^2 = 32.545$$

$$- 2.09 D^2 + 19.65 D \cot Q - 32.545 = 0$$

$$\text{or } D^2 - 9.40 D + 15.57 = 0$$

$$\begin{aligned}
 D &= \frac{9.40 \pm \sqrt{9.40^2 - 4 \times 15.57}}{2} = \frac{9.40 + 88.36 - 62.28}{2} \\
 &= \frac{9.40 + 26.08}{2} \\
 &= \frac{9.40 + 5.107}{2} \\
 &= 2.146 \text{ or } 7.25
 \end{aligned}$$

Adopt D = 2.146 M

And B = 10.68 M

8.5 HEAD LOSS :

8.5.1 The Head Race and Tail race Channel will be Open channel and of the same size. As per the design calculations made in Para 8.4 the section of both Head Race and tail race channel will be as follows :

Discharge	-	35.80 cumecs
Bed width	-	10.68 metres
F.S.D.	-	2.146 metres
Bed slope	-	1 in 5000
Side slope	-	1:1.5

8.5.2 The bed level and F.S.L. of Power channel at Intake Point is 81.98 M and 84.126 M above M.S.L. The length of Head Race Channel is 160 metres. With the design slope of the channel the loss in Head upto the entrance of Power Station will be 0.032 metre and thus bed level and F.S.L. at the entrance of Power House Zone is 81.948 M and 84.09 M above M.S.L.

As the same section of the Channel has been adopted for Tailrace Channel, the bed level and F.S.L. in Tailrace Channel would be 78.698 metres and 80.844 metres above M.S.L. Thus the available Head will be 3.25 metres.

- 8.5.3 There would, however, be minor Head Loss at the entrance of runner blades of the Turbine, but the runner blades are adjustable so that the Turbine can operate over a wide range of flows while maintaining good efficiency and hence such minor head loss is not taken into consideration.

CHAPTER – 9

MATERIAL MANAGEMENT

9.1 Design and Planning of Power House, its allied structures, power channel, tailrace channel, D.L. Road Bridge and others have been contemplated to contain economy, utility and stability.

9.2 **Cement :**

9.2.1 Ordinary Portland Cement conforming to I.S.S. 269 shall be used in cement concrete plain/reinforced. Mortar and grouting purpose. In case of scarcity of O.P.C. Portland Pazzolana Cement as per I.S.C. 1489 will be allowed in certain structures.

9.2.2 Cement is available at Banjari Cement Factory and market also.

9.3 **Reinforcement Steel:**

9.3.1 Reinforcement Steel complying with the requirement of the following I.S.S. shall be used.

- (i) Deformed bar/high yield
Strength bar as per I.S. 1786.
- (ii) M.S. bars as per I.S. 226/432.

Reinforcement bars will be free from rusts, dust, loose scales, oil, paints and other coatings.

9.3.2 Steel will be of tested quality and can be procured from Jehanabad district headquarters.

9.3.3. **Structural Steel :**

Structural Steel conforming to I.S. 226 or IS-2062 will be used in structures and for plates. The steel will be had from Bokaro Steel Plant and from Tata Steel Company, Jamshedpur.

9.4 **Bricks :**

Bricks complying with the requirement of I.S.1077 will be used. Alluvial soil available in the adjoining area will be utilized in manufacturer of Class-A bricks. In case of non-availability,

bricks would be manufactured with the existing sandy soil. Thus bricks will be procured locally.

9.5 Stone Aggregates:

9.5.1 Stone aggregate are available at Karbandia near Sasaram in Rohtas District.

9.5.2 Aggregates shall be free from dirt, clay, lumps and other deleterious materials. It should be durable, angular, hard, dense and strong.

9.6 Sand:

Sand is available from Sone river at Kamta/Palasi 10/12 km from S.H.P. site. Sand will comply with the requirement of (a) I.S.382 for R.C. work; (b) I.S.2116 with minimum fineness modules of 1.5 for masonry, and flooring works; (c) I.S. 1542 for cement plaster work. Local sand will be utilized in filling works.

9.7 Other materials :

Other materials required in execution of works, like industrial gases, electrodes, G.C.I/ACC sheets, etc. etc. will be procured locally from Daudnagar Arwal and transported to the site.

9.8 Estimated Quantity of Materials :

The estimated quantity of construction materials required for completion of civil work as in Power

Channel, power house, tailrace channel, piers gates, etc. etc. are indicated as under :-

1.	Plain cement concrete	M ³	655
2.	Reinforced cement concrete	M ³	1005
3.	Brick masonry	M ³	575
4.	Reinforcement Steel	M.T.	94
5.	Structural Steel	M.T.	71.

CHAPTER – 10**CONSTRUCTION MANAGEMENT AND MAN POWER PLANNING****10.1 Land Acquisition:**

10.1.1 Land required for the Power Station belongs to the Water Resources Department of Government of Bihar. As soon as in-principle sanction of the project is obtained, the Water Resources Department should be approached for transfer of land required for the Power Station, Switch yard and the Colony to the Implementing Authority i.e. either B.H.P.C. or any N.G.O. Further action on the project should be taken up when the decision of land transfer is obtained.

10.2 Appointment of Consultants:

10.2.1 After the in- principle sanction of the land immediate action should be taken for appointment of a Consultants for detailed design, and engineering so that no time is lost between sanction of the project and start the activities like detailed design and engineering. Before starting detailed design and engineering actual bearing capacity test at site has to be done for design of civil structure.

10.3 Contract packages:

10.3.1 Contract package in this case will only be the following :-

- (i) Contract for the Consultants for detailed design and engineering.
- (ii) Contract for construction for civil works.
- (iii) Contract for the detailed design, engineering, manufacture, supply erection, testing and commissioning of electrical and mechanical equipment.
- (iv) Contract for construction of transmission line.

As this is not generally done by the plant manufacturers.

10.3.2 The turn key job for such projects may be easy to handle but once we appoint a Consultant separate contracts for each of the above packages will be more economical. However, decision is left to be taken by the Implementing Authority.

10.4 Transportation of Heavy Equipment :

10.4.1 The heaviest equipment in this case will be the gear box for increasing the speed for using a standard generator. This is expected to be about 10 Tones but it may depend on the different manufacturers. In the power house there will be provision for 10 tons semi-automatic over head traveling crane. The supply of plant and equipment should be planned in such a manner that plant and equipment start arriving only after the power station building is ready with approach road and commissioning of over head traveling crane. This will help for saving of expenditure on a storage shed for storing the plant and equipment and transport of the same to the power house building for erection work.

10.4.2 It may however, be necessary to build a Small storage shed for storage of instruments and other delicate instruments at site.

10.5 Approach Road:

10.5.1 The first item that has to be looked into is repair and strengthening of the approach road with culverts in between so that there may not be difficulty in transport of the equipment at site.

10.6 Man Power Planning:

10.6.1 This is a small Power Station and in initial construction stage the staffing pattern will be as follows :-

1.	Project Engineer (of the rank of Asstt. Elect. Enginner)	01 no.
2.	Asstt. Engineer (Civil)	01 no.
3.	Junior Engineer (Civil)	01 no.
4.	Junior Engineer (elect.)	01 no.
5.	Peons	02 nos.
6.	Security Guards	03 nos.

10.7 Staff requirements for operation and maintenance :

10.7.1 Staff requirement for operation and maintenance will be as follows :-

1.	Junior Engineer (Civil)	01 no.
2.	Operators	02 nos.
3.	Errand Boys	04 nos.

The Assistant Electrical Engineer working in other Power Station of the area will also remain In-charge of this Power Station.

10.8 The requirement of quarters at site will be –

- | | | |
|------|--------------------------|---------|
| i. | Junior Engineers Quarter | 1 no. |
| ii. | Operators quarters | 04 nos. |
| iii. | Errand Boys quarters | 04 nos. |

These quarters should be constructed in the initial stage so that the same is used during construction work also.

10.9 A bar chart showing implementation programme of the project is enclosed as Exhibit No. 10.

CHAPTER – 11

PROJECT COST ESTIMATE

- 11.1 While framing the project cost estimate tentative design of the power channel, tailrace channel, power station building, D.L.R. bridge, approach road, etc. has been prepared and based on that the quantity of work involved has been calculated. The rates for civil works have been taken from the scheduled rates notified by Patna Division of P.W.D. , Government of Bihar in October, 1998. The location of this power station falls in the area of the Division for which the rates have been prescribed.
- 11.2 As regards cost of the electrical and mechanical equipment the recent tender received against different works for Bihar and near about Bihar have been taken into consideration. Budgetary Rates have also been obtained from manufacturers. The scheduled rates for transmission line is as per the scheduled rates of the Bihar State Electricity Board. Budgetary offers have also been obtained from E/M equipments.

ABSTRACT OF PROJECT COST

Cost Head	Items	Cost (Rs. In Lakhs)
1.	Preliminary	5.11
102	Temporary construction and enabling works Permanent Building works	20.60
200	Land	7.73
300	All other Civil Works	154.69
400	Electrical/Mechanical works	297.24
500	Associated Transmission System	32.00
600	Trial and Commissioning activities	1.00
	Total Works	Rs.518.37 lakhs
800	Over head Construction Account a. Establishment and Overhead Construction charges (5 % of total) b. Audit and Accounts (1% of total works) c. Tools & Plants	25.91 5.18 5.00
1000	Physical contingency (3% of total works)	15.55

	Grand Total :	Rs.570.01 lakhs
	Say :	Rs.570.00 lakhs

BELSAR SMALL HYDEL PROJECT
GENERAL ABSTRACT OF COST FOR LAND, COMMUNICATION AND OTHER CIVIL
WORKS

	Sub- Head	Amount (Rs. In lakh)
A.	Preliminary	5.11
B	Land	7.73
K	Buildings	20.60
J	Other Civil works	20.60
	i. Power Channel with lining and S.L.R. Bridge 20.56 lakhs ii. Power House (Civil Works) 94.86 lakhs iii. Tailrace channel with lining and S.L.R. Bridge 19.98 lakhs iv. D.L. Road Bridge 12.84 lakhs v. Miscellaneous Civil works 1.10 lakhs vi. Communication <u>5.35 lakhs</u> Total : 154.64 lakhs	Rs.154.69
E.	Tools & Plants	5.00

DETAILS OF COST UNDER THE SUB – HEAD**A - PRELIMINARY**

S.No.	Particulars		Amount in (Rs. Lacs)
1.	Detailed alignment, survey of Power Channel , Tailrace Channel including dugbelling, fixation of pillars etc.	L.S.	50,000.00
2.	Establishing and fixing bench marks	L.S.	1,000.00
3.	Digging test pits along canal alignment and at structure site.	L.S.	5,000.00
4.	Bearing pressure test at Power-House sites and canal structures site and bore hole at site.	L.S.	45,000.00
5.	Charges for consultancies for detailed design and engineering.	L.S.	4,00,000.00
6.	Training of Engineering	L.S.	10,000.00
		Total :	5,11,000.00
		Say Rs.	5.11 lakhs

DETAILED OF COST UNDER SUB-HEAD**B- LAND**

S.No.	Particulars	Qty.	Rate	Unit	Amount
1.	Permanent land for acquisition Headrace channel, Power House, Tailrace channel, Switch Yard etc.	3 Hect.	80,000.00 per Acre (Rs.2.0 lacs per Hect.		6,00,000.00

2.	Permanent land for construction of camps, colony.	0.4 Hect.	Rs.2.00 lacs	Per Hect.	80,000.00
3.	Compensation for standing crops for 3 Hect.	3 Hect.	Rs.30,000.00 Per Hect.	Per Hect.	90,000.00
4.	Demarcation, dug belling and fixing of boundary pillars including joint verification	L.S.			2,500.00
			Total :		7,72,500.00
			Say :		7.73 Lakhs

DETAILED OF COST UNDER THE SUB-HEAD

K - BUILDINGS

1	Residential Buildings with electrification, sewerage and plumbing.				
	Junior Engineer	1 No.	@ M ²	Each	95M ²
	Operator/ Assistant Controller	4 Nos.	@ 70 M ²	Each	280 M ²
	Grade IV Staff	2 nos.	@ 40 M ²	Each	80 M ²
2.	Non Residential Building (Temporary) Stone shed 10 M X 8 M = 80M ²		@ Rs.3,000/0 per M ²		2,40,000.00
			Total :		20,60,000.00
			Say		20.60 lakhs

J – POWER PLANT/APPERTEANCES AND OTHER (CIVIL WORKS)**GENERAL ABSTRACT OF COST**

S.No.	Particulars	Cost in Rs. Lakhs	
1.	Power Channel		Rs. 29.56 lakhs
	i. Earth Work	4.60	
	ii. Lining	8.06	
	iii. Pucca Structures (S.L.R. Bridge)	7.90	
	Total :	20.56 lakhs	
2.	Power House	94.86 lakhs	Rs. 94.86 lakhs
3.	Tailrace Channel		Rs. 19.98 lakhs
	i. Earth Work	2.60	
	ii. Lining	9.48	
	iii. Pucca Structures (S.L.R. Bridge)	7.90	
	Total :	19.98 lakhs	
4.	D.L.R. Bridge	12.84 lakhs	Rs.12.84 lakhs
5.	Miscellaneous		Rs.1.10 lakhs
6.	Communication		Rs.5.35 lakhs
	Total :		Rs.154.69 lakhs

ESTIMATE OF COST FOR EXCAVATION OF POWER CHANNEL

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation in all kinds of soil within initial lead of 50M and initial lift as per drawing, specification and direction of Engineer Incharge (Page 85. Item No. 10.1.7.)	4000	M ³	Rs.17.90	Rs.71,600.00
2.	Earth work in filling in embankment in all kinds of soil with initial lead of 40M and initial lift of 1.5 M as per specification and direction of Engineer Incharge (Page-86, Item No. 10.1.9).	16000	M ³	Rs.16.95	Rs.2,71,200/-
3.	Extra for each additional lead of 25M of part thereof 25M of part thereof over initial lead of 30 M as per specification (one number extra lead).	18000	M ³	Rs.2.00	Rs.36,000.00
4.	Extra for additional lift of 1.0 M or part thereof over initial lift of 1.5 M as per specification (two lifts) in Item No. (1) & (2) above.	12000	M ³	Rs.2.00	Rs.24,000.00
5.	Extra for hard soil 10% of Item 1 & 2.	2000	M ³	Rs.2.00	Rs. 4,000.00
6.	Extra for hard soil 10% of Item (1).	1000	M ³	Rs.2.00	Rs.40,000.00
7.	Extra for consolidation in all layers with sheep foot roller including watering as per specification.	2000	M ³	Rs.2.00	Rs.40,000.00
8.	Fine dressing & turfing with 3" thick grass sods obtained within a lead of 150M				

	and with all lifts *Page-97, Item 10.1.41.1).	5000	M ²	Rs.2.30	Rs.11,500.00
				Total :	Rs.4,60,300.00
				Say	Rs.4.60 lakhs

**ESTIMATE OF COST OF LINING OF POWER CHANNEL OF
BELSAR SMALL HYDROELECTRIC PROJECT**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Fine Dressing the inside slope and bed of the canal with compacted fully and rammed well including wetting of required etc. all complete job as per direction of Engineer Incharge for laying PCC precast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page-96, Item – 10.1.36).	2800	M ²	Rs.4.10	Rs.11,480.00
2.	Providing 0.60 x 0.45 x 0.05 M pre cast PCC (1:3:6) slab in the side slope and bed of the canal with groove of the slab etc. set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer Incharge. (Page – 103, Item – 10.2.19).	4600	M ²	Rs.125.00	Rs.5,75,000.00
3.	Providing PCC (1:3:6) with approved quality of graded stone chips of 20 mm and down size and coarse granular sand of approved quality in lug slab, cross and				

	longitudinal sleepers for lining of canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. with all lifts and leads, removal or shuttering etc all complete job as per drawing, specification and direction of Engineer Incharge.	50	M ²	Rs.2184.90	Rs1,09,245.00
4.	Providing intake wall with cement concrete (1:2:4) with approved quality of stone-chips 20 mm down to 6 mm graded and quality sand including the cost of form work, making space for under drainage pipes, fixing bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer Incharge (Page – 98, Item – 10.2.3).	10	Nos.	Rs.396.40`	Rs.3,964.00
5.	Providing 10 mm thick vertical joints in lining at suitable interval filled with butminous materials of approved quality including cost of materials all complete (Page-101, Item – 10.2.10.1).	500	M	Rs.18.60	Rs.9,300.00
6.	Supplying, fitting and fixing 150 mm dia vertical non return valves complete with botls, nuts plates etc. all complete.				

		15	Nos.	Rs.2500/-	Rs.37,500.00
7.	Supplying, fitting and fixing 50 mm dia non return pocket valves complete with bolts, nuts etc. all complete.	30	Nos.	Rs.1500.00	Rs.45,000.00
8.	Supplying, fitting and fixing 50 mm dia non return pocket valves complete with bolts, nuts etc. all complete.	30	Nos.	Rs.1500.00	Rs.45,000.00
9.	Lip cutting for providing transfilter and drain all complete job including the cost and laying of sand/stone chips filter of graded all complete job as per direction of Engineer Incharge.	600	M	Rs.25.00	Rs.16,000.00
				Total :	Rs.8,06,489.00
				Say :	Rs.8.06 lakhs

ESTIMATE OF COST OF CONSTRUCTION OF EACH S.L.R. BRIDGE ; ONE ON POWER CHANNEL AND ONE ON TAILRACE CHANNEL OF BELSAR S.H.P.

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth WORK in excavation of foundation trunches in all kinds of soils with all leads & lifts as per drawing, specification and direction of Engineer Incharge.	240	M ³	Rs21.90	Rs.5,256.00
2.	P.C.C. (1:3:6) M-100 in foundation of piers with stone metal 1 1/2 “ and down and Sone sand (washed and screened) including the cost of contering, shuttering and curing, etc. complete job as per drawing, specification and direction of				

	Engineer Incharge.	25	M ³	Rs.2184.90	Rs.54,622.50
3.	1 st Class brick work in C.M. (1:4) with quality Sone sand W/S in foundation and superstructure including cost of curing, as per drawing, specification and direction of Engineer Incharge. (Page – 113 Item – 10.4.2) .	155	M ³	Rs.1427.80	Rs.2,21,309.00
4.	Earth work in filling in foundation trunches with previous soil including watering & remaining in layers as per specification and direction of Engineer Incharge complete.	145	M ³	Rs.16.95	Rs.2,467.40
5.	R.C.C. M-150 (1:2:4) with stone chips ¾” and down and Sone sand (washed & screened) in bearing slab of piers including cost of shuttering, centring and curring etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer Incharge. (Page – 105, Item – 10.3.4.).	15	M ³	Rs.1737.55	Rs.26,063.25
6.	Providing roller boaring with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Enginer Incharge (for class A-A loading).	8 set	Sets	Rs.5000 each	Rs.40,000.00
7.	R.C.C. (1:2:4) M-150 with stone chips ¾” and down and Sone sand (washed and				

	screened) in deck slab, kerb and girder including the cost of storing, shuttering, centring and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer Incharge (Page-63, Item 9.3.8.).	25	M ³	Rs.1746.30	Rs.43,657.50
8.	Providing expansion joint in deck slab and washing coat with angle iron and masterfillet etc. including cost of supply, fitting and mixing complete.	12	M	Rs.250.00	Rs.3,000.00
9.	R.C.C. (1:2:4) M-150 with Stone chips ¾” and down and sone sand w/s in precast wall including cost of shuttering, centring and curing, etc. complete but excluding cost of reinforcement.	6	M ³	Rs.1737.55	Rs.10,425.30
10.	R.C.C. (1:1 ½”:3) M-200 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer Incharge (Page-110, Item – 10.3.13).	20	M ³	Rs.2094.30	Rs.41,886.00
11.	Providing 4” dia G.I. drain water pipe in deck slab with perforated cap including cost of material & labour complete as per specification and direction of Engineer Incharge.	12	Nos.	Rs.80.00	Rs.960.00
12.	Providing R.C. (1:2:4) M-200 railing and railing post with stone chips ¾” and down and Sone sand including cost of shuttering, centering and curing complete				

	best excluding cost of reinforcement as per specification and direction of Engineer Incharge.	35	M ³	Rs.1737.55	Rs.60,814.25
13.	Providing deep ruled cement in C.M. (1:3) with Sone sand (W/s) as per specification and direction of Engineer Incharge on brick work exposed surface (Page-122, Item – 10.5.11).	150	M ²	Rs.37.10	Rs.5,565.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, belding, placing in position and binding with 16 BWG wire compere as per drawing, specification and direction of Engineer Incharge.	12	MT	Rs.17309.30	Rs.2,07,711.60
15.	Providing Wheel guard post of R.C.C. (1:2:4) with stone chips ¾” and down and sone Sand (w/s) 3’-6’ long and 9” dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification and direction of Western Link Canal Hydrowlectric Project).	35	Nos.	Rs.45.00	Rs.1,575.00
16.	Desatering, Diversion of Road and site clearance etc.	L.S.			Rs.65,000.00
				Total :	Rs.7,90,312.80
				Say :	Rs.7.90 lakhs

Note :

1. Cost of one No. S.L.R. Bridge on Power channel – Rs.7.90 lakhs
2. Cost of one No. S.L.R. Bridge on Tailrace channel – Rs.7.90 lakhs

**ESTIMATE OF COST FOR CONSTRUCTION OF POWER HOUSE OF
BELSAR SMALL HYDROELECTRIC PROJECT
POWER HOUSE**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth WORK in excavation of foundation trunches of Power House structures service hays, retaining walls u/s & d/s aprons etc. in all kinds of soil wet & dry including all lifts & leads by manual labour as per drawing, specification and direction of Enginer Incharge (Vide item no. 10.1.7. & 10.1.33.1. & 10.1.34.1 Page-85, 93 & 94 of Volume No. III & IV).	3000	M ³		Rs.65,700.00
2.	Earth work in filling with selected earth on back fill of abutment wing walls and foundation trunches in largers not exceeding 15 cm well watered rammed fully completed by machine at CMC to the desired percentage of maximum dry density with all lifts & leads as per drawing, specification and direction of Engineer Incharge. (Page-86, Item – 10.1.9).	5500	M ³	Rs.16.95	Rs.93,225.00
3.	P.C.C. M-7.5 (1:4:8) in foundation well below raft including cost of materials labour, mixing conveying laying, compacting and curing along with the cost of shuttering and centering all complete as per drawing, specification and direction of Engineer Incharge. (Page-104, Item 10.3.2).	20	M ³	1268.25	Rs.25,365.00

4.	<p>(a) Providing and laying R.C.C. M-200 in foundation and plinth and superstructure at all elevation with hard quartzite of trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its bending, binding, cutting & placing with position.</p> <p>(Vide page-108, Item 10.3.10).</p>	700	M ³	Rs.2016.25	Rs.14,11,375.00
	<p>(b) Providing and laying R.C.C. M-15 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its bending, binding, cutting & placing with position and direction of Engineer in charge. (Page-109, Item10.3.12).</p>	150	M ³	Rs.1729.95	Rs.2,59,492.50
5.	<p>Supply & laying for Steel reinforcement in concrete work including straighting, derusting, curing, bending & binding with 16/20 SWG annealed wire, welding top butt etc. with approved electrodes, providing cone block pins chain supports or reinforcement etc. with all materials complete as per drawing, specification and direction of Engineer in charge.</p> <p>(Page – 112, Item No. 10.3.22).</p>	55	MT	Rs.17,309.30	Rs.9,52,011.50

6.	Supply, fabrication, erection, fitting, fixing, painting & hoising of roof trusses including embedded parts as per drawing, specification & direction of Engineer in charge (Vide Page-18 and 126, Item No. (ii) and 5.5.28).	20	MT	Rs.21,452.80	Rs.4,29,056.00
7.	Supply, fabrication, fitting and fixing in position pressure release pipe and M.S. grill railing, steel ladders and steel hoisting agreements chequered plates, etc. wherever necessary as per drawing, specification and direction of Engineer Incharge. (Page-122, Item 3.5.28 and Page-18).	25	MT	Rs.23,352.80	Rs.5,83,820.00
8.	(a) Supply, erection, fitting & fixing of embedded plates 12 mm thick to trash rack beams of the Power House as per drawing, specification and direction of Engineer Incharge.	10	MT	Rs.21,452.80	Rs.2,14,528.00
	(b) Supply, erection, fitting & fixing of M.S. flats/rods in srounding mat/cables for earthing etc. all complete job as per direction of Engieer Incharge.	8	MT	Rs.21,452.80	Rs.1,71,622.40
9.	Providing and fixing steel doors and windows fully glazed etc as per I.S. specification and direction of Engineer in charge. (Page-120, Item 5.5.518).	60	M ²	Rs.1,173.10	Rs.70,386.00
10.	Supplying, fitting and fixing in position				

	16 gauge rolling steel shutter as per I.S. specification including all railings, roller bearing, locking (double lock) arrangement as per direction of Engineer in charge (Page-119, Item 5.5.16).	15	M ²	Rs.977.70	Rs.14,665.50
11.	Providing & fabricating steel purlin C.p.E. including the cost of its erection and one coat of protective painting as per specification and direction of Engineer in charge.	8	MT	Rs.21,452.80	Rs.1,71,622.40
12.	Providing & fixing 100 mm H.C.I. rain water down pipe including its all fittings complete as per specification and direction of Engineer in charge (page-56, item – 24 © and item 12.1.45.3, page-220).	90	M	Rs.226.80	Rs.20,412.00
13.	Providing all materials & labour for expansion joints including supplying, fixing and placing of 230 mm water stops filling with asphalt in diamond shaped hole in concrete of size 125 mm square & providing 1 no. 12 mm galvanized standard stream pipe, pipe clump & 12 x 250 mm bolts & fixing 25 mm thick bituminous board in the gap of the existing joints as per drawing, specification and direction of Engineer in charge. (page-161, item – 5.10.25).	50	M ²	Rs.985.85	Rs.49,292.50

14.	Supply & laying standard Jason of tephelt or equivalent water proofing material in double layers of tarpelt treatment in five course over exposed roofs of power house treating the top with gravel 100 sft of surface (it will be the 6 th and last course as per I.S.S. and manufacturers specification the surface with brush and cloths lighty socked in vasine oil and cost of all materials & labours complete job as per drawing, specification and direction of Engineer in charge. (Page-32, item-84).	220	M ²	Rs.950.00	Rs.2,09,000.00
15.	Providing and laying 25 mm thick mosaic tile flooring/glazed tiles as per specification and direction of Engineer in charge. (Page-130, item 5.6.15©.	200	M ²	Rs.398.55	Rs.79,710.00
16.	Providing & laying wall finishing work including colouring etc.	L.S.			Rs.2,40,000.00
17.	Providing & painting steel structure, windows doors and etc.	L.S.			Rs.30,000.00
18.	Providing & fixing water supply and sanitary installation work.	L.S.			Rs.40,000.00
19.	Providing & fixing electrification works.	L.S.			Rs.40,000.00
20.	Site clearance, leveling and dressing.	L.S.			Rs.15,000.00
21.	Dewatering during construction.	L.S.			Rs.23,00,000.00

22.	Providing & laying precast slab R.C.C. (M-150) as per design and drawing all complete job. (Over roof trusses).	L.S.			Rs.1,50,000.00
23.	Providing and laying foam concrete complete job over the precise slab as per design and instruction of Engineer in charge.	L.S.			Rs.2,00,000.00
24.	Providing & laying of "ESCAPE" & shifting of the existing village channel all complete job.	L.S.			Rs.16,50,000.00
				Total :	Rs.94,86,283.80
				Say	Rs.94.80 lakhs

ESTIMATE OF COST OF EXCAVATION OF TAILRACE CHANNEL

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation in all kinds of soil, within initial lead of 50 m and initial lift of 1.5 m as per drawing, specification and direction of Engineer in charge.	10000	M ³		Rs.1,79,000.00
2.	Extra for lead of 25 M or part thereof over initial lead of 30 M as per specification (one extra lead).	1200	M ³	Rs.2.00	Rs.24,000.00
3.	Extra for each lift of 1.0 M or part thereof over the initial lift of 1.5 M per specification.	12000	M ³	Rs.2.00	Rs.24,000.00
4.	Extra for wet soil	2000	M ³	Rs.2.00	Rs.4,000.00

5.	Extra for consolidation of earth in 22 mm layers with power roller including watering and ramming as per specification.	1200	M ³	Rs.2.00	Rs.24,000.00
6.	Fine dressing and turfing with 3" thick grass sods obtained within a lead of 60M.	2500	M ²	Rs.3.20	Rs.5,750.00
				Total:	Rs.2,60,750.00
				Say	Rs.2.60 lakhs

ESTIMATE OF COST OF LINING OF TAILRACE CHANNEL OF BELSAR
SMALL HYDROELECTRIC PROJECT

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Fine Dressing the inside slope and bed of the canal with compacted fully and rammed well including wetting of required etc. all complete job as per direction of Engineer in charge for laying PCC precast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page-96, Item – 10.1.36).	6000	M ²	Rs.4.10	Rs.24,600.00
2.	Providing 0.6 x 0.45 x 0.056 M precast P.C.C. (1:3:6) slab in the side slope and bed of the canal with groove of the slab etc set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer in charge.	6100	M ²	Rs.125.00	Rs.7,62,500.00
3.	Providing intake walls with cement				

	concrete (1:2:4) with approved quality of stone chips 20 mm down to 6 mm graded and quality sand including the cost of form work, making space bolts of suitable size of fix valve on top, curing and placing in position mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer in charge. (Page-98, Item-10.2.3).	20	Nos.	Rs.396.40	Rs.7,928.00
4.	Providing 10 mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete. (Page-101, item – 10.2.10.1).	700	M	Rs.18.60	Rs.13,020.00
5.	Supplying, fitting and fixing 150 mm dia vertical non return valves complete with bolts, nuts plates etc. all complete.	20	Nos.	Rs.2,500.00	Rs.50,000.00
6.	Supplying, fitting and fixing 5 mm dia non return pocket valve complete with bolts, nuts etc. all complete.	40	Nos.	Rs.1,500.00	Rs.60,000.00
7.	Lip cutting for providing transverse filter and drain all complete job including the cost and laying of sand/stone chips filter of graded all complete job as per direction of Engineer in charge.	1200	M ³	Rs.25.00	Rs.30,000.00
				Total :	Rs.9,48,000.00
				Say :	Rs.9.48 lakhs

**ESTIMATE OF COST OF CONSTRUCTION OF D.L.R. BRIDGE AT 180
METRES OF POWER CHANNEL OF BELSAR HYDROELECTRIC PROJECT**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth WORK IN Excavation of foundation tranches in all kind of soils with all leads & lifts as per drawing, specification and direction of Engineer in charge.	350	M ³	Rs.21.90	Rs.7,665.00
2.	P.C.C (1:3:6) M-100 in foundation of piers with stone metal 1 ½” & down & sone sand (washed & screened) including the cost of centering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer in charge.	35	M ³	Rs.2184.90	Rs.76,471.50
3.	1 st class brick work in CM (1:4) with quality Sone sand w/s in foundation and super structure including cost of curing, as per drawing, specification and direction of Engineer in charge.	230	M ³	Rs.1427.80	Rs.3,28,394/-
4.	Earth work in filling in foundation tranches with previous soil including watering & remaining in layers as per specification and direction of Engineer in charge complete.	200	M ³	Rs.16.95	Rs.3,390.00
5.	R.C.C. M-150 (1:2:4) with stone chips ¾” and down and Sone sand (washed and screened in bearing				

	slab of piers including cost of shuttering, centering and curing etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer in charge. (page- 105, item – 10.3.4).	20	M ³	Rs.1,737.55	Rs.34,751.00
6.	Providing roller bearing with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer in charge (for class-AA loading).	8	Sets	Rs.5,000.00	Rs.40,000.00
7.	R.C.c. (1:2:4) M-150 with stone chips ¾” and down and Sone sand (washed and screened) in deck slab, kerb and girder including the cost of storing, shuttering, centering and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer in charge . (Page-63, item-9.3.8).	35	M ³	Rs.1.746.30	Rs.61,120.50
8.	Providing expansion joint in deck slab & wearing cost with angle iron and master fillet etc including cost of supply, filling and mixing complete.	20	M	Rs.250.00	Rs.5,000.00
9.	R.C.C. (1:2:4) M-150 with stone chips ¾’ and down and Sone sand				

	w/s in breast wall including cost of shuttering, centering and curing etc. complete but excluding cost of reinforcement.	8	M ³	Rs.1737.55	Rs.13,900.40
10.	R.C.C. (1:11/2:3) M-200 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of engineer in charge.	30	M ³	Rs.2094.30	Rs.62,829.00
11.	Providing 4” dia G.I. drain water pipe in deck slab with perforated cap including cost of material and labour complete as per specification and direction of engineer in charge.	16	Nos.	Rs.80.00	Rs.1,280.00
12.	Providing R.C.C. (1:2:4) M-150 railing and railing post with stone chips ¾” and down and sone sand including cost of shuttering, centering and curing complete best excluding cost of reinforcement as per specification and direction of Engineer in charge.	45	M ³	Rs.1737.55	Rs.78,189.75
13.	Providing deep ruled cement pointing in C.M. (1:30 with sone sand (w/s) as per specification and direction of Engineer in charge on brick work exposed surface. (Page-122, item-10.5.11).	240	M ²	Rs.37.10	Rs.8,904.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, bending, placing in position and binding with 16 BWG wire complete as per drawing,				

	specification and direction of Engineer in charge.	15	MT	Rs.17309.30	Rs.2,59,638.00
15.	Providing wheel guard post of R.C.C. (1:2:4) with stonechips ¾” and down and Sone sand (w/s) 3’-6” long and 9” dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification and direction of Engineer in charge (vide Sone western link canal hydroelectric project).	50	Nos.	Rs.45/- each	Rs.2250.00
16.	Dewatering, Diversion of Road and site clearance etc.	L.S.			Rs.3,00,000.00
				TOTAL:	Rs.12,83,783/-
				Say	RS.12.84 lakh

MISCELLANEOUS

S.N.	PARTICULARS		AMOUNT (in Rs. Lakhs)
1.	Capital cost of i. Electrification of colony ii. Water supply over head tank iii. Sewage and drains	L.S. L.S. L.S.	Rs.0.20 Rs.0.20 Rs.0.20
2.	OTHER ITEMS: i. Technical record photographic records ii. Tree plantation	L.S. L.S.	Rs.0.10 Rs.0.10
		Total	Rs.1.10 lakhs

DETAILS OF COST UNDER THE SUB- HEAD**COMMUNICATION**

S.No.	Particulars	Qty.	Rate	Amount (in lakhs)
1.	Cost of improving the existing road upto Power House site (Widening & metalling)	0.5 km	Rs.1.5 lac per km	Rs.0.75 lakhs
2.	Construction of colony road	L.S.		Rs.0.60
3.	Telephone	L.S.		Rs.4.00 lakhs
			Total:	Rs.5.35 lakhs

DETAILS OF COST UNDER THE SUB- HEAD**E – SPECIAL TOOLS AND PLANTS**

One number Jeep (Inspection Vehicle)

@ Rs. 40 lakh each

Rs.4.00 lakhs

Other special tools

Rs.1.00 lakhs

Total:

Rs.5.00 lakhs

ESTIMATE FOR ELECTRICAL & MECHANICAL EQUIPMENT
INCLUDING EVACUATION SYSTEM

A. ELECTRICAL & MECHANICAL EQUIPMENTS:

S.N.	Particulars	Qty.	Unit Price Ex-works (in lacs)	Total Price (in lacs)
1.	Vertical Semi-Kaplan, Turbine with Syphon Intake	2	37.00	74.00
2	Government System	2	10.00	20.00
3.	Speed Increaser	2	13.00	26.00
4.	E.O.T. Crane-10T Capacity	1	5.00	5.00
5.	Generator	2	21.00	42.00
6.	Power Transformer	1	9.00	9.00
7.	Battery with charging System	1 set	3.00	3.00
8.	Switch board Panels for Turbine, Generator, Auxiliary etc.	L.S.	22.00	22.00
9.	Switch Yard	L.S.	5.00	5.00
10.	Cabling/Earthing/Lighting/Ventilation/Fire fighting	L.S.	15.00	15.00
11.	30 KVA diesel Generator with Control panel and emergency Supply System	L.S.	2.00	2.00
12.	Tools & Plants	L.S.	1.00	1.00
13.	Spares for two O & M	L.S.	8.00	8.00
			Total:	232.00
14.	Excise duty 12%			27.84
			Total	259.84
15.	C.S.T. 4% Central Sales Tax			10.40
16.	Transport and transit insurance & insurance during erection			4.00
17.	Miscellaneous over head charges	L.S.		3.00
18.	Cost of erection, testing and commissioning of equipment covered from Sl. 1 to 11	L.S.		20.00

	above.			
		G.Total		297.24
B.	COST OF POWER EVACUATION			
	1.. Cost of Transmission Line 11 KV on Rabbit Conductor 16 KM in length.	L.S.		32.00

12. ESTIMATED COST OF GENERATION

<u>S.N.</u>	<u>Particulars</u>	
1.	Installed Capacity	1000 KW
2.	Cost of the Project	Rs.5,70,000.00
3.	Cost/KW (2/1)	Rs.57,000.00
4.	Interest on capital during construction	Rs.57,00,000.00
5.	Total sum at large (2+4)	Rs.6,27,00,000.00
6.	Cost/KW including interest during construction (5/1)	Rs.62,700.00
7.	Annual Generation	Rs.60,33,100.00
8.	Auxiliary consumption (@ 0.5%)	30,165 KWh
9.	Units sent out/year (7-8)	60,02,935 KWh
10.	Fixed charge (a+b+c)	Rs.79,80,000.00
	a. Interest charges @ 10 % of 5 Rs.62,70,000.00	
	b. O & M Charges @ 1% of 2 Rs.5,70,000.00	
	c. Depreciation @ 2.0% of 2 Rs.10,40,000.00	
11.	Total fixed and running charges per annum (10)	Rs.79,80,000.00
12.	Cost/Kwh generated 11/7	Rs.1.32
13.	Return on capital 16% and general reserve @ ½% i.e. 16.5% of project cost (0.165 x 2)	Rs.94,05,000.00
14.	Profit/Unit sent out 13/9	Rs.1.56
15.	Cost of sale of energy for sending out	Rs.1.32 + Rs.1.56 = Rs.2.88

Note : Interest during construction is calculated assuming total duration of construction of the project as 24 months and an interest rate of 10% as per formula.

$$I = \frac{PNR}{2 \times 12 \times 100}$$

- where P = Project cost;
 N = Total duration of the project in months;
 R = Interest rate in %
 I = Interest during construction.

13. PAY BACK PERIOD

1. **INVESTMENT**

1.1	Project capital cost	Rs.5,70,000.00
1.2	Interest during construction	Rs.57,00,000.00
1.3	Total Investment	Rs.6,27,00,000.00

2. **REVENUE DURING OPERATION**

2.1 **Annual Revenue Generated**

- | | | |
|----|---|-------------------|
| a. | Units sent out/year KWH
(Refer Item 9 of Calculation) | 60,02,935 KWh |
| b. | Selling price of power paise/KWh
(Refer item 16 of calculation of
cost of Generation) | 288 Paise |
| c. | Total revenue generated :
a x b | Rs.1,72,88,452.00 |

2.2 **Annual Generation Cost Incurred**

- | | | |
|-----|---|-------------------|
| a. | Annual fixed charges excluding
Depreciation and interest charges
(Refer item 10(b) of calculation
of cost of generation) | Rs.5,70,000.00 |
| 2.3 | Net annual revenue generation
(2:1© - 2.2) | Rs.1,67,18,452.00 |
| 3.0 | Pay back period (1.3/2.3) | 3.75 years. |

BENEFIT COST RATIO

A.	<u>Annual Expenses</u>	Rs.79,80,000.00
	1. O & M	Rs.5,70,000.00
	2. Depreciation charges @ 2%	Rs.11,40,000.00
	3. Interest charges	Rs.62,70,000.00
B.	Annual Revenue	Rs.1,72,88,452.00
C.	Benefit cost ratio (B/A)	<u>Rs.1,72,88,452</u> = 2.16
		79,80,000

14. FINANCIAL STATEMENT

CAPITAL EXPENDITURE DURING FIRST YEAR - Rs.180.00 Lakhs**CAPITAL EXPENDITURE DURING SECOND YEAR – Rs.390.00 Lakhs**[illegible]

15. ENVIRONMENT AND ECOLOGICAL ASPECTS

QUESTIONNAIR ISSUED BY THE DEPARTMENT OF ENVIRONMENT FOR RIVER VALLEY
PROJECTS.

1.0 Detailed basic information affecting the environment :

1.01	Predominant existing land use pattern (agricultural land reserve and the forest etc.) in project area upto 10 km, upstream.	:	Comprises mostly agricultural land owned by W.R. Deptt. Of Govt. of Bihar.
1.02	Break up of submerged area total submerged area (1% hectares)	:	The project does not envisage any reservoir and hence question of submergence does not arise. A bypass channel will be constructed parallel to Patna canal of Sone Canal system.
	Forest land Cultivated land Shrubs & fallow Rocky outcrop Wet land Open water Other use	:	Nil
1.03	a. Forest type in catchment and submerged areas.	:	N.A.
	b. Extent and nature of forest to be cut for construction of roads, colony and other appurtenant works	:	Nil
1.04	Duration of project's construction	:	24 months.
1.05	Estimated peak labour strength	:	Skilled - 10 Unskilled – 50

			Labour from local villages to be recruited.
1.06	Population density in the area per sq. km.	:	Non
1.07	Number of villages and population to be displaced	:	
	No. of villages Size of village Affected families in each village ST SC Other Occupation of the affected people Agriculture Industrial labour Forest based	:	Does not arise Does not arise
	Owner cultivators by size of land holdings	:	
	Marginal (1.0 hect.) Small 1.0 2.5 hect.) Medium (2.5 5.0 hect.) Large (Over 5.0 hect)	:	Does not arise
1.08	Resettlement Is a rehabilitation committee being constituted ?	:	As these will be no displacement no resettlement is needed.
	Existing guidelines, if any for compensation.	:	Does not arise
	Level of compensation in cash and kind.	:	Does not arise.
	Number of out families likely to be settled in new settlement	:	Does not arise.
	Size of proposed new settlement	:	Does not arise
	Lay out plans/master plans for new settlement	:	Does not arise

	Distance of new settlement form the present habitant	:	Does not arise.
1.09	Number and type of facilities (e.g.School, Post office, Bank, Panchayat Ghar, Police Station approach road, Drainage and water supply etc.) proposed to be provided.	:	Only approach road up to site will be improved. Other facilities as available locally will be utilized.
1.10	Is the affected area covered by development programmes like IED, SED, draught prone area tribal development etc.	:	No
1.11	Any proposal to provide or create employment for outtees nature and quantum of employment to be provided.	:	Does not arise as there will be no outtees.
1.12	What is the expected rate of siltation? Is down stream area subject to flooding ?	: :	Not applicable No
1.13	Wind at dam site (diagram giving statistical information concerning the direction and speed of the wind at the site).	:	Not applicable.
1.14	Hurricane, tornadoes, cycloes, Frequency of occurrence Wind velocity (Average)	: : :	Not applicable.
1.15	Plan of area on the reservoir periphery subject to erosion, slides and slips.	:	Not applicable.
1.16	The depth of ground water Table - Maximum Minimum Quality of ground water portable/ non-portable/ fit for irrigation industry.	: : :	M M

		:	Potable.
1.17.	Present ground water use pattern in the command area under irrigation.	:	The command area is surface irrigated by canal.
1.18	Based on the experience of similar projects in the area, specify the interaction between the altered surface water patterns and underground aquifers and their recharge.	:	Not applicable.
2.00	Environmental status : a. Indicate known pollution sources in the region (indicate the industrial like chemicals, textiles and other thermal power unit, mining operations, etc.).	:	Not such industry near Project site.
2.02	Indicate the industrial and other development project likely to be taken up in the area during the next five to ten years.	:	No such plan.
2.03	a. Does the area support economically viable aquatic life, fish, crocodiles ?	:	Not applicable.
	b. Are there any fish/ crocodile breeding ground in the river tributaries in the submergence ?	:	No
2.04	Does the site contain a wild life (including birds) habitat, breeding area, feeding area, migration route including the number of wild life available in the area.	:	No
2.05	Is the site a potential wild life sanctuary ?	:	No
2.06	Specify any rare or endangered species of flora and fauna found in the affected area along with their		

	approximate number and measures to salvage/rehabilitate them.	:	No.
2.07	Is the area a tourise resort ?	:	No
2.08	Are any monuments/sites of cultural, historical, religious archeological or recreational importance including wild life sanctuaries, national parks etc. likely to be affected by the proposed project ? If so details thereof	:	No
2.09	Does the proposed area suffer from endemic health problems due to water/soil borne disease	:	No
3.00	ENVIRONMENTAL IMPACTS		
3.01	What measures are planned to develop the site to enhance its aesthetic aspects (i.e. recreation and water sport facilities and picnic sites, etc).	:	Some plantation near the power station will be done.
3.02	Will the project help in flood control, reduction or even eradication of flood havoc down steam ?	:	Not applicable.
3.03	Are any changes in water salinity expected ? If yes, give details of proposed measures to counter act this.	:	No
3.04	Are problems of water logging envisaged in the command area ? If so, give details of proposed steps to combat the problem.	:	No
3.05	Will the reservoir be used for fisheries development, fish culture as well as fish breeding, crocodile farming etc ? If yes, give details thereof.	:	There is no reservoir envisaged.
3.06	Will fish ladders/life and like		

	arrangements be provided to allow movement of important migratory fish population ?	:	Not applicable.
3.07	Measures proposed to prevent grazing the cultivation on reservoir slopes to avoid erosion and premature silting up the impoundment.	:	Not applicable.
3.08	Will any important natural resources (minerals, coal, timber etc). be lost or their use precluded because of the presence or operation of the project ? If yes, specify the resources estimated loss.	:	No
3.09	What is potential loss in aquatic production on site up and down stream ? Fish and other useful animals and plants.	:	Nil
3.10	Will the formation and use of the water body result in the introduction or enhancement or water borne disease ?	:	Not applicable
3.11	Will the impounded reservoir lead to:- i. Noxious aquatic weeds like salinia, water, hyacinth etc. ii. Intermittent host (Vctor) like snails, mosquitoes etc.	: : :	No No No
3.12	How will aquatic weeds be controlled in submerged area as to provide an improved habitat as for fishery exploitations	:	Not applicable.
3.13	Will the project induce adverse climatological changes (regarding		

	temperature, humidity, wind and precipitation including modifications to macro and micro climate) ?	:	No
3.14	What impact is expected on geological factors (e.g. seismic impact or reservoir loading) ?	:	No impact
3.15	Indicate the magnitude of impact due to population pressure on :- i. Felling of trees for firewood ii. Forest fires iii. Over grazing leading to depletion of the pastures iv. Visual pollution and damage to scenic values	: : : :	Nil Nil Nil Nil
3.16	What arrangement are being made (i) to met fuel requirements of the the labour force during construction period to prevent indiscriminate felling of trees for firewood ? ii. For compensatory afforestation iii. to enforce anticipating laws iv. To control flow of sediments and pollutants due to fertilizer and pesticide run-off for cultivated area. v. For restoration of land in construction area (filling, grading, and reforestation etc). to prevent erosion. vi. For soil conservation in the catchment. vii. For soil conservation in the catchment.	: : : : : : :	Not Applicable Not applicable Not applicable This situation will normally not arise. Not applicable.
4.00	Cost of Environmental studies and project Management	:	Not applicable.
4.01	Provision for environmental studies/		

	surveys need for this project.	:	Not applicable
4.02	Cost of proposed remedial and mitigative measures environment.	:	Not applicable.
4.03	Has the cost of environmental studies/protection measures been considered in the cost benefit analysis of the project.	:	Not applicable

CHECK LIST

NAME OF THE PROJECT	Sebari
LOCATION	
a. State	Bihar
b. District	Rohtas
c. Taluka	Nasriganj
d. Site	Sebari
<u>CATEGORY OF THE PROJECT</u>	
a. Micro Hydel	
Hydroelectric schemes with a total installed capacity upto 100KW having individual units with capacities of a few KW to 100KW:	
b. Mini Hydel	
Hydroelectric schemes with a total installed capacity upto 2000KW or near around with capacities of individual units from 100KW to 1000KW.	Mini Hydel Project
c. Small Hydel	
Hydroelectric schemes with a total installed capacity upto 15MW with individual units having capacities from 1 MW to 5 MW	
<u>PLANNING</u>	
Has the overall development of the stream/canal been prepared and stages of development discussed briefly ?	Yes
Have the alternative proposals been studied and their merits and demerits discussed ?	Yes
Have the detailed topographical surveys been carried out for the following items and drawings prepared as per prescribed scales :	
a. Stream Surveys	Yes
b. Head work surveys (weir or diversion structures) :	Yes
c. Camp Site:	Yes
d. Water conductor system	Yes
e. Power House, Switchyard, Tailrace	Yes
f. Penstock	Not applicable
g. Communication, etc.	Yes.
<u>GEOLOGY</u>	
Have the geological surveys for head works, power house and tailrace, etc., been carried out and report on general geology of the area and on geology of the sites of principal structures appended ?	Yes
<u>FOUNDATION INVESTIGATIONS</u>	
Have the foundation investigations for the major civil structures and of the scheme been carried out.	Yes, but detailed investigation to be done for design & Engineering.
<u>MATERIAL SURVEYS</u>	
Have the surveys and laboratory tests for construction materials like pervious and impervious	Yes

soils, sand, aggregates, etc. been carried out: (wherever necessary)		
<u>HYDROLOGY & HYDROLOGICAL INVESTIGATIONS</u>		
Have the hydrological and meteorological investigations been carried out and status of data discussed in report?		
i. Rainfall in the catchment.	Not applicable	
ii. Gauge and discharge data of the stream / canal	Yes	
<u>HYDROLOGY</u>		
Have hydrological studies	Yes	
been carried out to establish the	Dependability	Discharge in cumecs
availability of water for the benefits	%	
envisaged, and what is the dependability	25	48.63
of the potential ?	50	19.76
	75	14.76
	94.44	1.21
<u>LAND ACQUISITION & RE-SETTLEMENT</u> (Wherever Applicable)		
Have the provisions for land acquisition and resettlement been considered	The land belongs to Govt. Provision of cost made in estimate.	
Have the socio-economic problems involved in resettlement been investigated and discussed.	No resettlement needed. Socio-economics problems discussed.	
<u>DESIGN</u>		
Has the layout of the project area viz. location of diversion structure, workshop sheds, offices, camps, etc. been finalised ?	Yes	
Have the preliminary designs been prepared for the following components ?		
a. Diversion Weir/Gate:	Not applicable.	
b. Penstock and water conductor system etc.	Not applicable	
c. Power House and switchyard	Yes	
d. Power house equipment L T/HT switching equipment and control and protection equipment	Yes	
<u>POWER BENEFITS :</u>		
Have the following been discussed ?		
a. Total energy production and installed capacity of the overall development of power of the region ? (If applicable)	Yes	
b. How does the scheme fit into overall development of power of the region? (If applicable)	Yes	
c. Energy generation from the Project firm power, seasonal power and total power.	Yes	
d. Proposals for transmission and/or connecting to the existing system, etc. (wherever applicable)	Yes	
e. Cost of generated per KW installed per KWh	Yes	

generated as compared to the various micro hydel projects and services in the region to justify the economic viability of the scheme.	
<u>CONSTRUCTION PROGRAMME</u>	
Are the major components of work proposed to be done departmentally or through contractor?	Through contractor or on Turn Key basis.
Have the quantities of the following items been worked out for various components of the project ?	
a. Excavation-soft & hard strata.	Yes
b. Earthwork in filling (wherever applicable)	Yes
c. Stone for masonry	Yes
d. Coarse aggregate for concrete,	Yes
e. Steel of various sizes and type of reinforcement.	Yes
f. Cement	Yes
g. Other materials -P.O.L., Electricity	Yes
<u>ESTIMATE</u>	
a. Is the estimate prepared	Yes
b. Have the analysis of rates for various major items and the components of the project been furnished, with basis of analysis and the price index ?	Yes
<u>ECOLOGICAL & ENVIRONMENTAL ASPECTS :</u>	
Is the area likely to have any environmental and ecological problems due to the altered surface water pattern and preventive / corrective measures discussed? (wherever applicable)	No environmental and ecological effect expected
<u>CAMPS AND BUILDING</u>	
Has the planning of the camps / buildings been done ?	Yes
<u>SOIL CONSERVATION</u>	
Is the need for soil conservation measures in the project discussed ?	Not applicable

SALIENT FEATURES

<u>1. LOCATION</u>	
i. State	Bihar
ii. District	Rohtas(Sasaram-50 Kms)
iii. Taluka (Block)	Nasriganj Block (10 km)
iv. Access –Road	From SHP site to Patna-Dehri state Highway – 9 Km. Grand Trunk Road (N.H.-2) Dehri-on-Sone – 35.5 Kms.
Rail.(B.G)	Dehri – on - Sone Railway Station on Grand chord Rail line of Eastern Railway – 35.5 Km.
v. Geographical co-ordinates	
Latitude	25° -12' -30" North
Longitude	84° - 13' -40" East.
<u>2. CANAL FALL / LOW HEAD</u>	
i. Project	Low Head Sebari SHP
ii. Canal System	Located at 27.4Km in Ara Branch canal of Sone canal system.

<u>3. Hydrology</u>			
Canal Falls/Low Head Schemes			
i Design Discharge	24.70 Cumecs		
ii. Water availability			
Percentage	Discharge	Head	Power in KW
25%	48.63 cumecs	4.50M	1888
50%	19.76 cumecs	4.50M	767
75%	14.76 cumecs	4.50M	573
94.44%	1.21 cumecs	4.50M	47

<u>4. LOW HEAD / CANAL SCHEME</u>	
a. Shape	Trapezoidal
b. Size	Bed width –8.082M Full supply depth –1.891M
c. Capacity of canal (cumecs)	25.80 cumecs
d. Full supply level	89.971M above M.S.L.
e. Lining details (m)	Plain cement concrete lining of power channel- 160M
f. Fall structure (m)	Existing -24M Length
g. Height of fall (m)	4.70M
h. By-pass arrangements	By pass canal
i. Bridges, if any	Existing S.L.R. Bridge
j. Annual closure period of canal (days)	120 days in a year for maintenance of canal.
<u>5. POWER HOUSE</u>	
i. Type	Semi Kaplan Syphon Type
ii. Head (m)	
-Maximum	Gross Head –5.93 metre
-Minimum	4.50 M
-Average	4.50M

-Design	4.50M
iii. <u>Size of Power House</u>	
a. Length (m)	16 M
b. Width (m)	8 M
c. Height (m)	8 M
d. Machine Hall floor level	92.70M above MSL
iv. Installed Capacity	2 x 500 KW
v. <u>Turbine(s) –Type</u>	Semi Kaplan Syphon Intake Vertical Turbine
-Number	Two
-Capacity (KW/HP)	2 x 500KW
vi. Type of generator	Synchronous Vertical Generator
a. Excitation system	Brushless
b. Regulation system	Electronic Governor
vii. Power House crane/ lifting tackle capacity	12Ton Semi E.O.T.
<u>6. TAILRACE</u>	
i. Shape	Trapezoidal
ii. Size	Bed width –8.082 M Full supply depth –1.981 M
iii. Length (m)	190M, Plain cement concrete lining.
iv. Water level	Fully supply level 85.47M above M.S.L.
v. D.L.R. Bridge	1 (one) no.
vi. No. of draft tube	2 (Two) no.
<u>7. POWER</u>	
i. Installed capacity	2 x 500 KW
ii. Firm power (KW)	1000 KW
-Load factor in percent	Plant load factor-50%
iii. Annual energy (KWH)	7497 x 10 ³ Kwh
iv. Power evacuation	Through single circuit 10 KM long 11 KV line from SHP to Nasriganj 33/11 KV grid sub-station of B.S.E.B.
<u>8. SWITCHYARD</u>	
i. Voltage level / Basic insulation level.	0.415/11 KV
ii. No. of bays	One
iii. Size: (a) Length	8 M
(b) Width	5 M
iv. Number of transformer of 0.415/11 KV	One
v. Capacity of Transformer	1250 KVA
<u>9. ESTIMATES OF COSTS</u>	
i. Total Costs	Rs. 5,68,20,000/-(excluding IDC)
ii. Cost per KW installed	Rs. 56,820/-
iii. Cost of generation per KWh	1.09
iv. Benefit cost ratio	2.13
v. Cost of sale of energy per KWh allowing 16% profit on capital + 0.5% reserve.	Rs.2.35
vi. Pay Back Period	3.68 years.

GOVERNMENT POLICY REGARDING S.H.P

1.1 State Government Policy

- 1.1.1 In order to bridge the gap between demand and supply of electrical power and energy which is increasing in great proportion, the Govt. of Bihar has decided to encourage harnessing of the hydro-power potential in hilly areas. The Government has also decided to encourage private entrepreneurs to install such small power station and also allow them to distribute the power in nearby licensed area directly or to pump the generated power to the Bihar State Electricity Board grid. Such private entrepreneurs can have their own Tariff for supply of electricity to their consumers in the licensed area as per the Resolution No.643, dated 10.3.93 of Department of Energy, Government of Bihar.
- 1.1.2 The Draft Policy Guide lines for the private participation for development of non-conventional energy sources in the State of Bihar with regard to Power Purchase Policy, wheeling charges, banking and interfacing is already under consideration of the government and very soon this policy will be decided and come into force.

1.2 Central Government Policy

- 1.2.1 The Government of India through Ministry of Non-conventional Energy Sources, Power group, has in order to give thrust to this programme, also decided to provide maximum capitalised interest subsidy amount upto Rs. 38.3 lakhs per MW or the actual capitalised interest subsidy amount whichever is lower to bring down the interest rate by the financial institutions for execution/ development of Small Hydel Projects upto 3MW station capacity. This interest subsidy will be provided for the project taken in the private sector, co-operative sector, N.G.Os, Local bodies, S.E.Bs, and Government Departments and public sector corporations barring loss making private and public sector entrepreneurs.
- 1.2.2 The Ministry of Non-conventional Energy Sources has also introduced the following subsidy scheme in respect of S.H.P. projects upto 3 MW capacity.
 - i. For grid connected projects -subsidy upto 25% of the acceptable costs of civil works and E & M equipment including generator transformers.
 - ii. For non-connected projects and projects in North-Eastern Region an regions (Whether grid connected or non-grid connected) :- Subsidy upto 50% of the acceptable capital costs of civil works and E & M equipment including the transformers. The projects are taken to be non-grid if the grid transformer is in excepts of 2 KMs from the projects site further, power from the S.H.P. project not connected to the grid or in North-Eastern Region and in hilly regions is to be supplied at the reduced rates reckoned on a cost of generation calculated after netting out subsidy element from the capital cost.
- 1.2.3 For giving the above subsidy the following will be taken as the acceptable capital cost of civil works and E & M equipment including generator transformer for providing the subsidy :-

	Broad Category of Project	Capital cost/KW of E & M and civil works for provision of subsidy.	
		Station Capacity below 500KW	Station capacity 500KW & above.
1.	Run off river projects in plain regions	Rs. 38,000/-	Rs. 34,000/-
2.	Projects in North-Eastern region and other hilly areas. (as declared by State Govt.)		
	a. Within 10 Kms from road head	Rs. 40,000/-	Rs. 36,000/-
	b. Between 10-20 Kms from road head	Rs. 45,000/-	Rs. 40,000/-
	c. above 20 Kms from road head	Rs. 50,000/-	Rs. 45,000/-

POWER SCENARIO IN BIHAR AND NEED OF THE PROJECT

In Bihar, the responsibility of meeting the power demand in the D.V.C. Valley Area is of D.V.C. For the remaining area, the total responsibility of meeting the power demand is the responsibility of State Government through State Electricity Board, Tenughat Vidyut Nigam, and Bihar Hydro Electric Power Corporation.

The 15th Power Survey assessed the power and energy demand of Bihar outside D. V.C. area as follows:-

	Year		
	1999-00	2000-2001	2000-2002
Energy Demand in M Kwh	10765	11492	12222
Peak Load (MW)	2048	2186	2325

Even the above forecast of the demand was based on the suppressed demand in Bihar at the time of 15th Power Survey. This is because of the fact that there is inadequate transmission, distribution network to meet the total demand of the state outside D.V.C. Valley.

In the B.S.E.B. system there has not been any addition in the generating capacity since 1986 except two units of 210 MW at Tenughat Thermal Power Station. The generating units of Patraru, Barauni, and Muzaffarpur are not functioning well and the B.S.E.B. has derated their capacity and the derated capacity availing as follows:-

Patraru	640MW
Barauni	210 MW
Muzaffarpur	220 MW
Tenughat	420MW
Total	1490 MW

Besides, Subemrekha Hydel Power Project of 130 MW capacity runs only for few hours during peak load period.

The present demand of power in B.S.E.B. area is hardly 1000MW during normal consumption period and 1400MW during peak period. This demand is a suppressed due to several reasons as explained above.

The average monthly consumption of energy in the State (outside D.V.C. area) is generally met from the following sources:

From N.T.P.C. -	390MU
From Power grid Corpn.- (Sukha from Bhutan)	30MU
From Tenughat Vidyut Nigam-	100MU
From State Electricity Board Power Stations-	200MU
Total	720MU

With this average monthly consumption the yearly consumption in the State will be 8640 MU against the projected demand of 11492 MU in the year 2000-01 and 12222 MU in the year 2000-02. The available energy, therefore, falls short of the present and projected demand.

Against the 1000 MW power demand during the non -peak period and 1400MW power during peak period about 600 MW are purchased from N.T.P.C. and Power grid Corporation and Tenughat Thennal Power Station and about 300 MW generated at Board's Power Stations. Even with the suppressed demand of the State there is shortage of 400 MW power which is about 25% of the power demand.

Besides, for successful operation of any Power System, Hydro- Thermal mix of 40:60 is considered to be ideal one and that of 25:75 is satisfactory. Even with the present Thermal installed capacity of 1490MW for achieving the Hydro-Thermal mix of 40:60, there should have been about 993MW capacity of Hydel Power Stations and for achieving Hydro-Thermal mix of 25:75, there should have been about 496.50 MW of installed capacity of Hydel Power Stations.

There is thus shortage of power, shortage of energy and also a very low Hydro-Thermal mix in the State and this calls for installation of Hydel Project in the State wherever possible to obviate the shortage. There is, therefore, need of this Power Station to be installed early.

CHAPTER-1

SCOPE OF THE PROJECT

- 1.1 The Sone Canal System emanating from Indrapuri Barrage on the river Sone plays a key role in ushering tremendous irrigation potential to the vast track of land of Bihar. The track cover in this system pertains to the districts of Patna, Aurangabad, Bhojpur, Rohtas, Buxar, and Jehanabad. This canal has a good number of falls provided for systematic irrigation of the area. These falls located for best utilisation of water for irrigation purposes, can be harnessed for power generation.

The main canals, Western Link Canal on left side and Eastern Link Canal on the right side of Sone River, flows in the region. After traversing a distance of 10.5 km of the Western Link Canal, Main Western Canal starts. In Main Western Canal some Branch Canals emanate as per the requirement for best utilisation of water for irrigation; one of them is Ara Branch Canal. The Sebari SHP site falls in the Ara branch Canal.

- 1.2 There are a number of low head canal drops along the Branch Canals. In view of the Government thrust to develop and utilise the micro/mini/SHP of the State, B.H.P.C. has decided to harness the power potential of canal drops which are at approachable locations and viable. This project report covers to utilise Sebari fall site at a distance of 17.40 km in Ara Branch Canal for power generation. The schematic diagram of Sone Canal System is given in Exhibit -1.

1.3 The Sebari SHP covers the following main features:-

- a. **Power Channel :** For this SHP it is proposed to take out a Power- channel from 160m up stream of the fall on Right side of the Ara Branch Canal and this will be a lined canal. The Power House will be located in this channel. The Power Channel will be trapezoidal in shape. Escape arrangement will be provided to divert the water from power channel to main canal when the power plant suddenly stops and due to surge action the level of water in the canal increases.
- b. It is proposed to install Syphon Intake Type Vertical semi-kaplan Turbine, this being the most economical alternative as discussed in Chapter- 11.
- c. Power House consists of three essential constituents namely- (i) Machine Hall or unit bay; (ii) Control Room; (iii) Erection bay and auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. Size of the power house building will be 16M x 8M. The ceiling height of the building will be 8M. In order to facilitate the handling of equipments control room, battery room, office and stores have been located separately.
- d. An open switchyard has been planned by the side of the Power House main building. The Power House will be connected to the nearest B.S.E.B. grid. The cost of transmission line has been included in the project estimate.

- 1.4 General layout plan of the project is shown in Exhibit- 3.

- 1.5 For construction power as a first priority 11 KV line from Sebari 33/11 KV sub - station with transformer at SHP will be constructed and power will be made available. This line will be used later for evacuation of power. A 30 KVA diesel generating set has also been included in the estimate for meeting emergency requirement during construction as well as during operation and maintenance.

- 1.6 The project will be self- contained, providing necessary basic facilities to the

personnel working during construction and O & M. This SHP will add to the generating capacity of the State which is power starved.

CHAPTER -II INTRODUCTION

2.1 GEOGRAPHICAL DISPOSITION

2.1.1 The project is located in the plains of South Bihar. The geographical coordinates of the proposed site are as under:

Latitude-	25 ° -12' -30" North.
Longitude-	84°- 13' -40" East.

The schematic diagram of Sone Canal system showing location of Sebari SHP is given in Exhibit -1.

2.2 TOPOGRAPHY AND PHYSIOGRAPHY:

SEBARI S.H.P. is located in Sebari village in the Ara Branch Canal. The land in the vicinity is cultivable. The area bears no undulation and is good for cultivation.

The average elevation of the project site is 89.48M above M.S.L. A topographical survey of the area has been carried out and the same is placed in Exhibit -2.

The nature of the soil is good for crops as well as manufacturing Class -A bricks. The bearing pressure of the soil at the site is estimated to be 9 M. T. per M² at the depth of 2.5 metre below natural soil level. This has however, to be measured before undertaking detail design and engineering.

2.3 GEOLOGY

The project area falls in the Sone-Ganges basin, which consists of thick alluvial soil, the thickness of which varies from 3M to 5M. Details have been indicated in Chapter 'Geology' separately.

2.4 HYDROLOGY

The discharge data has been collected from Water Resources Deptt., Government of Bihar, Patna. Discharge Data pertains to the period of ten years ranging from 1986 to 1995.

At the fall site discharge measurement is done by Water Resources Department and the same has been adopted for computation of power potential. This indicates that this quantum of water will be available and can be utilised for power generation.

Based on the requirement of water for various types of crops, the discharge fluctuates in the canal. The canal remains closed in the month of March, April, May and mid - June. During the winter season water discharge of the canal is less as it irrigates the Rabi crops, which in general, require less water. In brief, water in the canal remains available for 66% to 70% of the period in a year.

The details of availability of water and percentage dependability for power generation details have been indicated in Hydrology Chapter.

2.5 CANAL SYSTEM

The Sone Canal System emanating from Indrapuri barrage on the river Sone plays a

key role in ushering tremendous irrigation potentiality to the vast track of land of Bihar. The track covered in this system pertains to the districts of Patna, Aurangabad, Bhojpur, Rohtas, Buxar and Jahanabad. This Canal system has a good number of falls provided for systematic irrigation of the area. These falls located for best utilisation of water for irrigation purposes, can be harnessed for power generation.

Exhibit No. -1 shows the schematic diagram of the Sone Canal System.

The Main Canals, Western Link Canal on left side and Eastern Link Canal on the right of Sone River, flows in the region. Western link Canal on right side of Sone River travels in length of 10.5 km, from where main Western Canal takes off and goes upto 39.2 km in length. Ara Branch Canal starts at 8.05 Km of main Western Canal Sebari S.H.P. is located at 27.40 Km. in Ara branch Canal.

2.6 LOCATION OF PROJECT AREA

The proposed S.H.P. site is located near village - Sebari in Nasriganj Block of Rohtas (sasaram) district. This site falls at 27.40 km in Ara Branch Canal. The National Highway No.2 (Grand Trunk Road) at Dehri – on – Sone is 35.5 km away from the site. The state highway (Patna - Dehri) passes at the distance of 9 KM from the S.H.P. site.

Dehri-on-Sone Railway Station is the nearest Railway Station located on Grand chord line of Eastern Railway at a distance of 35.5 km from the site. nearest airport is Patna at the distance of 142 km. This site is thus approachable by pucca road and rail facility is also available.

The Nasriganj Block is 9 km from the S.H.P. site.

This site is also connected by service road of the Ara Branch Canal. This is good enough for movement of light vehicles and for transport of plant and equipment.

2.7 COMMUNICATION FACILITIES

Sebari S.H.P. is approachable by metalled road as well as railway facility is also available. All these have been elucidated in para 2.6 STD/ISD facility is available at Nasriganj only 9 km away and this facility can be extended up to the site as well.

2.8 CLIMATIC CONDITIONS

The area falls in central Bihar, where in general, tropical climate prevails. The maximum and minimum atmospheric temperature recorded in summer and winter seasons is 46.9°C and 5°C, respectively. The maximum mean annual temperature is 37.05°C and minimum mean annual temperature is 14.7°C. The relative humidity of the area varies from 86% (maximum) to 31% minimum. The average humidity is 64%.

The annual average rainfall is 1141.8mm. Maximum annual rainfall and minimum annual rainfall is 1718.6mm and 567.7mm respectively. Heaviest rainfall recorded in 24 hours is 254.5mm. The precipitation starts from mid -June and ends in mid - October. Thus barring four months being the rainy season, the remaining eight months may be treated as the working season though a little shower during December/ January occurs occasionally.

2.9 SOCIO - ECONOMIC ASPECTS

The project site is in Central Bihar of Sone - Ganga Basin which is thickly populated. The inhabitants are predominantly agriculturists, who mostly thrive on agricultural products. With the spiral hike in population the incidence of yield per acre percapita has been reduced tremendously. Their modus -operandi is to utilise fossil fuel-like petrol, diesel and K.Oil required for running their agricultural appliances. There are no industries in the area owing to non -availability of power. Thus they drift towards unwarranted activities and immigration of people are becoming more prominent specially among the poor and landless.

Provision of power facilities to the area now contemplated under this S.H.P. will lead them towards betterment and ameliorate their difficult living conditions. This area is in acute need of power so as to create industrial environment in the area and also prevent them from resorting to unwanted means of livelihood to which they are now accustomed. These efforts can succeed only if power potential is harnessed without disturbing the existing irrigation facility. Various types of industry would grow as per availability of power. With the industrial growth people will elevate their living condition thus putting a check on unwanted tendencies as well as immigration.

CHAPTER -III **SURVEY AND INVESTIGATION**

3.1 TOPOGRAPHICAL SURVEY

The Topographical Survey had earlier been done by M/s D.N. Singh Associates Pvt. Ltd. During Survey & Investigation stage the topographical map of the area had been drawn and given in Annexure -I.

The Topographical Map includes topography of the canal fall, by-pass system, water conductor system, power house, switchyard, tailrace channel and the colony.

The G.T.S. bench mark is already inscribed on the existing canal fall structure and all the levels have been taken with this bench mark as a reference.

The approach road has also been shown in the Topographical Map.

3.2 HYDROLOGICAL SURVEYS

The discharge at the fall site is regularly being measured and recorded by the Water Resources Department of Government of Bihar. The daily discharge data for ten years i.e. from 1986 to 1995 has been obtained from Water Resources Deptt. and utilised for hydrological considerations of this project. (vide Table A).

3.3 METEOROLOGICAL SURVEYS

The nearest meteorological laboratory is at Dehri-on-Sone and the meteorological data of this station has been taken into consideration for this purpose.

CHAPTER –IV

WATER RESOURCES

- 4.1 Hydrological study has been conducted in order to assess the availability of water in the canal and for assessing the power potential to be harnessed. This canal is in operation for about one and a half century. Thus the hydrology of the canal is well established. The canal runs for 66% to 70% of the period in a year.

For about four months canal remains closed for maintenance work. Flood occurrence in the vicinity has not occurred since no major river or rivulets are flowing nearby. As such, design flood peak for sizing the system is not required.

- 4.2 All discharge and other relevant data have been obtained from Water Resources Department of the Government of Bihar. Eastern Link Canal originates on right side of Indrapuri Barrage and traverses a length of 10.5km from where main Western canal originates. Ara Branch Canal takes off at 8.05km of the main Eastern Canal. The Sebari fall is located at a distance of 27.40 km of the Ara Branch Canal. Sebari S.H.P. is proposed to be located at this fall site.
- 4.3 Due consideration of the data obtained from the Irrigation Department has been given while evaluating the discharge data and power capacity of the proposed S.H.P. The nearest rainfall observatory is located at Dehri -on -Sone, and for all purposes of design the same has been considered. The maximum and minimum annual rainfall in the region is 1718.6 mm and 567. 7 mm respectively. Average annual rainfall is 1141.8 mm.
- 4.4 As estimated, 70% of the annual precipitation occurs during monsoon. The actual observed discharge data has been collected from the Irrigation Department. Based on this data, the 10 days daily average discharge for each of the 10 years is computed in Table -'A'. Based on this the monthly 10 days daily annual average data was calculated and is given in Table 'B'. The percentage dependability and assessment of power potential has been calculated based on these data.
- 4.5 Water in the canal is released from Inderpuri Barrage on river Sone. Presently there is no consumptive use of water on the U/S of the barrage. Nabinagar Thermal Power Station (2 x 500MW) on right side of river Sone U/S of the barrage has been contemplated. Nabinagar Thermal Power Station is located at 25Km U/S of the barrage. In between this and the off take point of Sone Canal system, there is no industry and no tributary to the Sone river.
- 4.6 In general, quality of water is good and also suitable for construction purposes. During monsoon period the river carries sand of fine to coarse quality. Test Report of Sone river water conducted for Nabinagar Thermal Power Station is hereby indicated in table –'C'.

TABLE -A
SEBARI SMALL HYDEL POWER STATION
10 (TEN) DAYS DAILY AVERAGE DISCHARGE DATA IN CUMECS

Month		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Jan.	I	10.15	14.51	24.08	19.60	8.39	16.12	00.21	05.58	13.46	40.75
	II	32.12	37.87	12.13	19.98	8.70	04.01	25.36	11.09	11.88	40.75
	III	36.01	32.15	20.16	16.01	8.82	24.72	27.71	12.77	10.44	24.61
Feb.	I	18.57	34.43	25.26	20.19	22.02	26.00	28.14	13.88	16.37	40.77
	II	28.63	30.43	28.61	31.64	00.42	19.63	14.01	05.74	24.39	16.99
	III	23.57	16.06	25.75	25.16	00.37	37.06	23.65	04.90	08.32	02.56
March	I	18.94	10.49	24.81	24.62	17.40	18.00	20.15	15.61	23.02	15.50
	II	31.11	21.75	10.26	24.22	03.22	18.65	03.45	08.28	26.84	11.75
	III	30.90	29.22	00.08	12.80	12.60	18.75	04.48	12.51	17.60	16.86
April	I	29.53	C.C.	C.C.	C.C.	C.C.	C.C.	8.88	15.46	C.C.	C.C.
	II	14.18	C.C.	C.C.	C.C.	C.C.	C.C.	4.10	C.C.	C.C.	C.C.
	III	01.21	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
May	I	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	II	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	III	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	17.69
June	I	09.82	09.98	10.05	09.84	10.01	13.57	6.65	02.67	11.91	14.99
	II	14.90	16.72	16.65	16.42	16.36	10.65	8.09	15.33	19.62	27.71
	III	19.42	20.54	19.66	19.56	19.62	22.92	9.42	12.07	36.71	17.69
July	I	12.05	02.74	34.81	33.62	24.26	36.31	34.31	42.08	45.40	46.83
	II	26.62	46.87	30.98	38.21	02.23	33.07	38.99	51.34	52.15	43.16
	III	33.11	41.63	47.27	40.89	11.27	35.24	51.30	54.11	57.02	51.64
August	I	51.52	47.08	50.45	48.74	13.41	51.96	69.23	59.54	36.89	57.56
	II	51.08	58.22	45.63	51.52	26.46	56.39	64.31	55.19	43.02	46.47
	III	59.42	56.48	52.75	52.87	45.18	53.47	66.92	55.11	41.49	58.13
September	I	56.85	57.39	53.48	59.07	57.72	24.01	52.66	49.12	47.97	56.05
	II	61.05	25.14	59.01	55.41	60.07	32.81	61.24	41.71	39.64	52.09
	III	64.35	10.84	60.55	65.21	57.69	56.47	60.23	37.81	33.59	41.83
October	I	63.64	31.12	45.66	58.39	51.21	46.93	44.34	47.69	56.87	50.76
	II	64.04	64.15	31.02	56.66	56.59	46.02	23.00	48.25	59.38	59.71
	III	39.25	59.47	19.56	52.87	55.02	57.61	28.94	56.61	58.24	61.16
November	I	41.45	59.73	61.63	51.39	48.46	56.81	35.74	37.25	59.14	61.01
	II	12.07	45.91	17.48	26.41	41.64	40.81	05.31	19.96	39.25	17.78
	III	41.32	18.67	18.87	18.07	42.86	20.14	03.18	03.37	05.21	C.C.
December	I	23.12	23.09	29.91	06.68	21.02	29.41	C.C.	01.54	1.06	C.C.
	II	03.15	15.21	44.89	15.78	10.24	02.19	C.C.	25.46	4.58	7.20
	III	C.C.	20.12	30.62	21.96	23.80	00.23	12.98	16.02	17.98	6.30

C. C. = Canal Closed.

TABLE-B
SEBARI SMALL HYDEL POWER STATION
10 (TEN) DAILY ANNUAL DISCHARGE DATA
(IN CUMECS)

Month	Discharge	Month	Discharge.
January		July	
I	15.27	I	31.24
II	19.27	II	42.98
III	21.39	III	42.35
February		August	
I	24.56	I	48.63
II	20.04	II	48.91
III	16.76	III	54.11
March		September	
I	17.40	I	51.43
II	15.89	II	48.87
III	12.70	III	48.89
April		October	
I	13.11	I	48.85
II	09.14	II	49.20
III	01.21	III	48.86
May		November	
I	0.0	I	46.76
II	0.0	II	26.36
III	8.80	III	18.70
June		December	
I	9.94	I	14.76
II	16.21	II	12.64
III	19.76	III	14.97

TABLE-C
SONE RIVER WATER ANALYSIS

<u>S. N.</u>	<u>Item</u>	<u>Unit</u>	<u>Value.</u>
1	Turbidity NTU	ppm	about 30
2	pH	No	8.3
3	P –alkalinity	ppm	Nil
4	Total alkalinity	ppm	130
5	Total hardness	ppm	130
6	Calcium hardness	ppm	80
7	Temporary hardness	ppm	130
8	Permanent hardness	ppm	Nil
9	Total dissolved solids	ppm	205
10	Total suspended solids	ppm	15
11	Chloride as Cl	ppm	6.5
12	Sulphates as SO ₄	ppm	30
13	Silica as SiO ₂	ppm	18
14	Calcium as Ca	ppm	34.4
15	Magnesium as Mg.	ppm	12.1
16	Sodium as Na	ppm	12.1
17	Potassium as K	ppm	3.1
18	Conductivity	Micro / Mho / cm.	380
19	Bicarbonates	ppm	130

- 4.7 Water analysis can be considered for the design of turbine and other equipment taking into consideration silt / sand load carried into the stream during the period of monsoon.
- 4.8 For realistic formulation of the scheme, actual observed discharge obtained from the Water Resources Deptt., Government of Bihar has been taken into account. It may be mentioned here that the actual discharge flowing in the canal is less than the design discharge of the canal.

CHAPTER-V **GEOLOGY**

- 5.1 The project site lies in Central Bihar having surrounded by two major river Sone & Ganges. The deposits of thick alluvium soil inundates this region and this indicates that the area belong to the last phase of depositional period of the earth. At the project site in general, the area is plain in nature.
- 5.2 Geologically the entire track has achieved the established soil pattern due to perennial irrigation system since century and a half. Upper strata upto 3 metres is Kewal soil followed by 6 meters depth of dhumas soil and therefore 6 meter depth of Kankar mixed soil. Fine to coarse sand is found of the depth of 15 metres from the natural ground level. Thus the whole area is falling flat plain either covered by black soil or alluvium.
- 5.3 Ground water table is found at 15.00 M depth, but this depth varies. During monsoon period the water table remains at 7M below the natural ground level. The power channel and the tailrace channel will remain above the sub -soil water level. Suitable drainage arrangement shall be made to over come the water logging. Bearing Pressure at the project site is considered as 9 MT per M² at 2.5 metre depth. This, however, will have to be checked before undertaking detail design and engineering.
- 5.4 Barring about four months, complete year is treated as working season. Monsoon period covers from mid -June to mid -October in a year with a few showers of rain during winter. The average annual rainfall in this area is 1141.8mm.
- 5.5 The project area lies in Zone -II of seismic zone as per India seismic zone classification.

CHAPTER -VI

CONSTRUCTION MATERIAL MANAGEMENT

- 6.1 Design and planning of Power House, its allied structures, power channel, tailrace channel, D.L. Road Bridge and others have been contemplated to contain economy, utility and stability.

6.2 Cement

- 6.2.1 Ordinary Portland Cement conforming to I.S.S. 269 shall be used in cement concrete plain / reinforced, mortar and grouting purpose. In case of scarcity of O.P.C., Portland Pazzolana Cement as per I.S.S. 1489 will be allowed in certain structures.
- 6.2.2 Cement is available in Dehri -on-Sone / Nasriganj market and can be had from Banjari, Kalyanpur cement factory located in Rohtas district.

6.3 Reinforcement Steel

- 6.3.1 Reinforcement Steel complying with the requirement of the following I.S.S. shall be used.
- i. Deformed bar / high yield
Strength bar as per I.S. 1786.
 - ii. M.S. Bars as per I.S. 226/432.

Reinforcement bars will be free from rusts, dust, loose scales, oil paints and other coatings.

- 6.3.2 Steel will be of tested quality and can be procured from Nasriganj / Dehri on sone and Rohtas (sasaram) district Head Quarter.

6.3.3 Structural Steel

Structural steel conforming to I.S. 226 or IS -2062 will be used in structures and for plates. The steel will be procured from Bokaro Steel Plant and from Tata Steel Company, Jamshedpur.

6.4 Bricks

Bricks complying with the requirement of I.S.1077 will be used. Alluvial soil available in the adjoining area will be utilised in manufacture of Class -A bricks. In case of non-availability, bricks would be manufactured with the existing sandy soil. Thus bricks will be procured locally.

6.5 Stone Aggregates

- 6.5.1 Stone aggregate are available at Karbandia in Rohtas District, 54 km from the site.
- 6.5.2 Aggregates shall be free from dirt, clay, lumps and other deleterious materials. It should be durable, angular, hard, dense and strong.

6.6 Sand

Sand is available in River Sone and transported from near Dehri-on Sone about 36 Km distance. Sand will comply with the requirement of (a) I.S. 382 for R.C. work; (b)

I.S. 2116 with minimum fineness modules of 1.5 for masonry, and flooring works; (c)
I.S. 1542 for cement plaster work. Local sand will be utilised in filling works.

6.7 Other Materials

Other materials required in execution of works, like industrial gases, electrodes, G.C.I. / ACC sheets, etc. will be procured locally from Nasriganj / Dehri – on - Sone and transported to the site.

6.8 Estimated Quantity of materials.

The estimated quantity of construction materials required for completion of etc. are indicated as under: -

			Quantity
1.	Plain cement concrete	M ³	718
2.	Reinforced cement concrete	M ³	1020
3.	Brick Masonary	M ³	580
4.	Reinforcement steel	M.T.	95
5.	Structural Steel	M.T.	72

CHAPTER –VII
BASIC SYSTEM SCHEME

- 7.1 This Power Station site is located at Sebari fall in the Ara Canal System. At Sebari fall there is also a provision for a separate channel for navigation system. This navigation system is not in operation since a very long time. The maintenance of the navigation channel has also, therefore, been abandoned by the Water Resources Department.
- 7.2 For this S.H.P. it is proposed to take out a canal from 160M upstream of the fall on right side of the navigation canal. As it is proposed to install Syphon Intake Type Vertical Semi -Kaplan Turbine there will be no need for gate at either at in -take of this bypass canal or at the gate of the power station.

In this S.H.P. there will be two units each of 500 KW capacity Syphon Intake Type semi Kaplan vertical Turbine each coupled with 500 KW Vertical Generator connected through reducing gear so as to enable installation of a standard generator. The generation will be at 415 Volt, three phase, 50 CPS, 0.9 pf. From Generator Terminal 1100V grade cable will be taken out and connected to the 0.415KV, three phase, aluminium bus of adequate capacity. There will be provision for grounding the neutral of the generator. From 0.415KV, three phase bus which will be connected to the generator, cable will be taken out for the outgoing feeder. As the inter-connection of this S.H.P. with the Nasriganj 33/11 KV grid sub -station has been planned at 11 KV, there will be one 1250 KVA 0.415 KV/11 KV, three phase transformer. In between the transformer and the 0.415 KV bus there will be draw out type air circuit breaker of adequate capacity. After the Transformer on 11 KV side there will be provision of vacuum circuit breaker and thereafter 11 KV air break switch. Lightning arrestor will be provided at the structure for taking off 11 KV line to protect the transformer and the power station from heavy electrical surges. There will be provision of adequate C.T.'s, P.T.'s metres and other protection system as hereinafter described in Chapter -11 .

- 7.3 For auxiliary consumption one three phase line will be taken off from 0.415 KV bus which will be connected to a switch Fuse Unit and thereafter distributed for different purposes through Miniature Circuit Breaker of proper rating.
- 7.4 The general arrangement of the bypass channel showing the Power Station, Switchyard etc. will be clear from exhibit No.3.
- 7.5 The Single Line diagram showing the electrical system arrangement is given as Exhibit No.7.

CHAPTER-VIII **DESIGN REPORT**

8.1 Computation of various Alternatives installed capacity

8.1.1. Data Available

8.1.1.1 The Water and power potential study has been envisaged based on the data as under :-

- a. Dependable flow
- b. Net head available.

8.1.2. Dependable flow

8.1.2.1. Discharge data for year 1986 to 1995 is available. Yearwise 10 days daily discharge data is place in Table-A and 10 (Ten) daily annual average discharge data is placed in Table-B. Average dependable discharge is given in Table-D.

As evident from the hydrological data of the canal, canal remains closed for four months in a year which has been considered in evaluating the flow discharge pattern.

8.1.2.2. From percentage dependability it appears that at 27.77% to 58.33% the discharge varies from 49.96 cumecs to 17.40 cumecs. The corresponding power potential ranges from 1815 KW to 675 KW as could be seen from Table -'E'. This aspect has been considered in formulating the capacity of the unit so that reliability of unit is maintained with optimum efficiency. Further elucidation has been indicated in Para 8.1.5 (INSTALLED CAPACITY).

8.1.3 Head Available

8.1.3.1 At SEBARI fall site. net head of 4.50 metre is available, which is adequate to be considered for power generation.

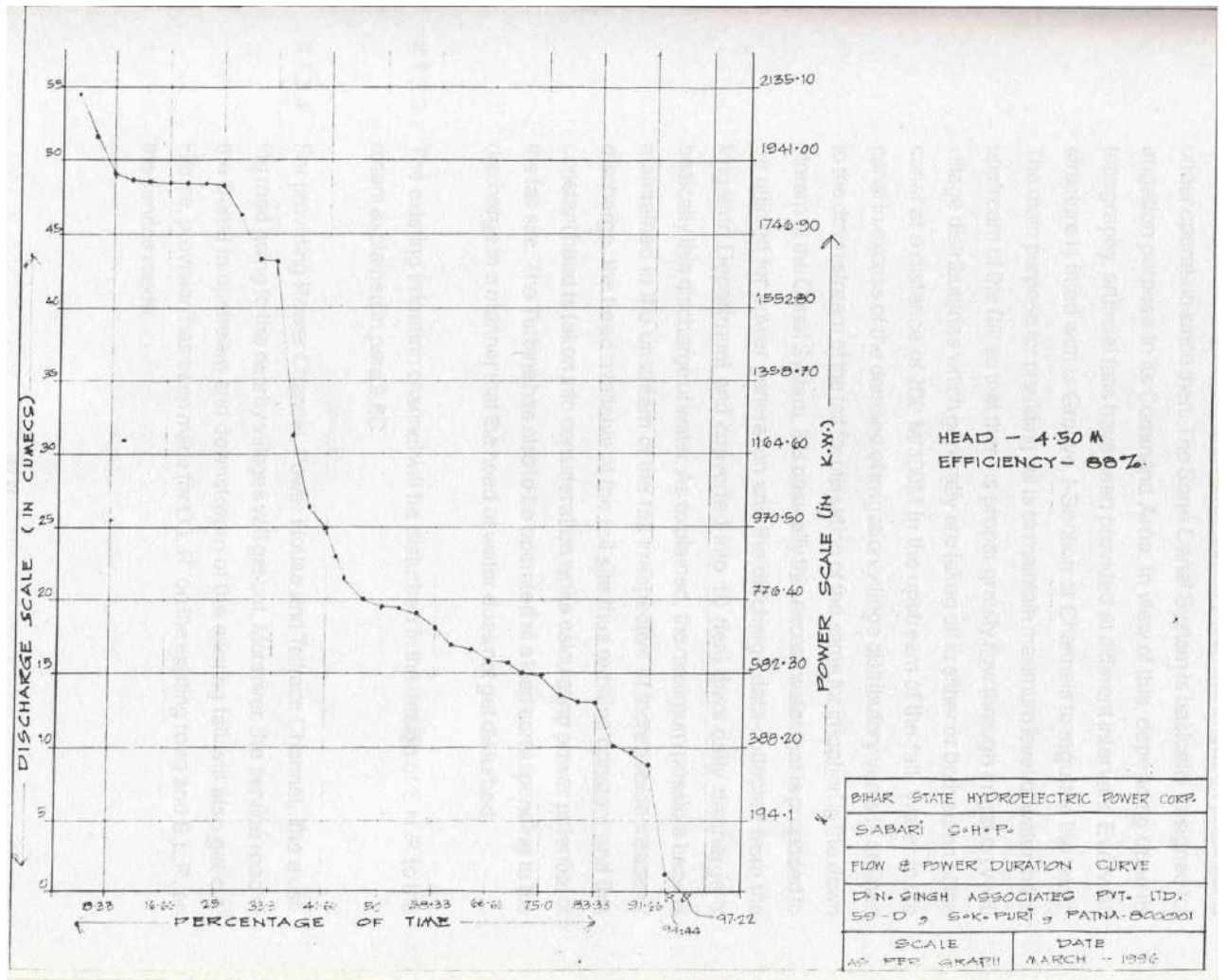
TABLE –‘D’

SEBARI SMALL HYDEL, POWER STATION
AVERAGE DEPENDABLE DISCHARGE

Time per dependable		Mean discharge in cumecs
02.77	...	54.10
05.55	...	51.43
08.33	...	49.20
11.11	...	48.91
13.88	...	48.89
16.66	...	48.87
19.44	...	48.86
22.22	...	48.85
25.00	...	48.63
27.77	...	46.76
30.55	...	42.98
33.33	...	42.35
36.11	...	31.24
38.88	...	26.36
41.66	...	24.56
44.44	...	21.39
47.22	...	20.04
50.00	...	19.76
52.77	...	19.27
55.55	...	18.70
58.33	...	17.40
61.11	...	16.76
63.88	...	16.61
66.66	...	15.87
69.44	...	15.27
72.22	...	14.97
75.00	...	14.76
77.77	...	13.11
80.85	...	12.70
83.33	...	12.64
86.11	...	9.94
88.88	...	9.14
91.66	...	8.80
94.44	...	1.21
97.22	...	0.0

TABLE- 'E'
POWER POTENTIAL AT VARIOUS DEPENDABILITY

Percentage Dependability	Discharge in Cumecs	Net Head in metre	Power Potential in KW
02.77	54.10	4.50	2101
05.55	51.43	“	1997
08.33	49.20	“	1910
11.11	48.91	“	1898
13.88	48.89	“	1898
16.16	48.87	“	1897
19.44	48.86	“	1897
22.22	48.85	“	1896
25.00	48.63	“	1888
27.77	46.76	“	1815
30.55	42.98	“	1668
33.33	42.35	“	1644
36.11	31.24	“	1213
38.88	26.36	“	1023
41.66	24.56	“	953
44.44	21.39	“	830
47.22	20.04	“	778
50.00	19.76	“	767
52.77	19.27	“	748
55.55	18.70	“	726
58.33	17.40	“	675
61.11	16.76	“	651
63.88	16.61	“	629
66.66	15.87	“	597
69.44	15.27	“	593
72.22	14.97	“	581
75.00	14.76	“	573
77.77	13.11	“	509
80.55	12.70	“	493
83.33	12.64	“	491
86.11	9.94	“	386
88.88	9.14	“	355
91.66	8.80	“	342
94.44	1.21	“	47
97.22	0.0	“	0.0



8.1.3.2 The Sone Canal System is more than century old. The irrigation potential is under operation since then. The Sone Canal System is basically designed for irrigation purpose in its Command Area. In view of this, depending upon its topography, artificial falls have been provided at different intervals. Every fall structure is fitted with U-Groove. I-Section or Channels to regulate the head. The main purpose for providing fall is to maintain maximum level of water in the upstream of the fall so that there is proper gravity flow through irrigation vent / village distributaries which generally are taken off in either or both sides of the canal at a distance of 200 M/300M in the upstream of the fall. Water in the canal in excess of the demand of irrigation/village distributaries vents is drained to the down stream of the fall for utilisation of the same for irrigation in the down stream of the Canal System. It is basically this excess water that is proposed to be utilised for power generation and the discharge data collected from the Irrigation Department and converted into 10 (ten) days daily discharge is basically this discharge of water. As explained, the maximum possible head is maintained in the upstream of the fall irrespective of increase/decrease of discharge, the head available at the fall site thus remains constant and this constant head is taken into consideration while calculating power potential of the fall site. The Turbine has also to be operated at a load corresponding to the discharge in a manner that the head of water does not get disturbed.

8.1.3.3 The existing irrigation channel will be disturbed in the design of S.H.P. to the extent explained in para 9.8C.

8.1.3.4 For providing Power Channel, Power House and Tailrace Channel, the existing road going to the nearby villages will get cut. Moreover. The service road of the Canal in upstream and downstream of the existing fall will also get cut. Hence, provision has been made for D.L.R. on the existing road and S.L.R. on the service roads.

8.1.3.5 Power House will be located in the by -pass channel and the tailrace channel will lead to the D/S in the main canal.

8.1.3.6 The existing fall structure would not be disturbed. There is no provision of gates, etc. on upstream of Power House in the Power Channel or in the main Canal. Main canal is having provision for putting planks on the U -groove to maintain upstream head. Excess water due to surge action on sudden closure of the generating unit will be spilled through the ESCAPE made of concrete and masonry in the power channel upstream of the Power House and will be drained to the tailrace channel through hume pipe. A lump sum cost has been provided in the estimate but detail design and engineering will be done at the time of execution of the project.

8.1.4 Power Potential

8.1.4.1 With constant net head of 4.50 metre, flow and power potential has been computed and placed in Table -'E'.

8.1.4.2 For Power Potential-computation 88% of overall average machine efficiency has been considered.

8.1.5 Installed Capacity

8.1.5.1 Selection of the installed capacities of the power houses in both the circumstances

is based on the following issues:-

- i. Demand of power
- ii. Running the machine for minimum period on part load.
- iii. Running one number of machine (out of two) for minimum period.
- iv. Total potential generated.
- v. Minimum expenditure without affecting generation.

8.1.5.2 The energy generated for different installed capacity varying from 800 KW to 1000 KW has been computed and is placed in table –‘F’.

It is evident from the Table -'F' that incremental benefit begins to fall for capacity beyond 900 KW. This has been elucidated in para 8.1.5.3 (below).

8.1.5.3 The annual energy generation for installed capacity of Units 800KW, 900KW, and 1000KW works out 6677, 7121, & 7543 (Kwh x 10³). The inter difference in each two subsequent capacities is indicated in tabular form below:

Installed Capacity	Annual energy generation (KWh x 10³)	Inter difference in energy (KWhx103)
800 KW	6677	—
900 KW	7121	444
1000 KW	7543	422

8.1.5.4 It is thus advisable to adopt installation of generating capacity of 1000 KW at this S.H.P. As regards the decision for determining the number of units to be installed. Table -H with 2 x 500 KW capacity has been prepared according to which the total annual generation comes to 7497 x 10³ Kwh. Whereas as per Table- 'G' if we install one unit of 1000 KW only, the total annual generation will be 7528 x 10³ Kwh. There is minor difference of 31 x 10³ Kwh in the annual generation between the two options i.e. one unit of 1000 KW capacity and two units each of 500 KW capacity. But the utilisation of higher capacity machine in comparison of two units of lower capacity (Keeping the total capacity same in both alternatives) appears to be not fully utilised and actually becomes uneconomical (Refer Table -G & H). The utilisation of 1000 KW unit is limited to 91.66% dependability (on fully and part utilisation inclusive) and beyond this unit can not be operated being less than 30% minimum loading.

The pertinent issue relates to the utilisation of the unit at full discharge (25.80 cumecs), which in this case comes to 38.88% dependability. It indicates that unit would run on part load from 41.66% dependability to 91.66% dependability. As such this creates a wide gap in full utilisation of the unit.

In case of two units each of 500 KW the Unit remains fully utilised for longer period and its scope of utilisation upto 30% minimum loading also gets enhanced. One unit of 500 KW remains in full utilisation upto 77.77% dependability and from 77.77% dependability to 91.66% dependability the unit would run on part load. Simultaneously the second unit would run fully upto 38.88% dependability and on part load from 38.88% to 33% dependability. Thus it shows that smaller unit would be, in this case more useful in view of utilisation and economy. As such two units each of 500 KW capacity have been considered.

(30)

TABLE – ‘F’
SEBARI S.H.P.

POWER POTENTIAL AT VARIOUS INSTALLED CAPACITY

Percentage Dependability	Discharge in cumecs	Head in Meter	Power Potential in KW	Power generated with installed capacity				Energy generated in KWH x 10 ³ with installed capacity of			
				800 KW	900 KW	1000 KW		800 KW	900 KW	1000 KW	
02.77	51.10	4.50	2101	800	900	1000		235	264	294	
05.55	51.43	4.50	1997	800	900	1000		235	264	294	
08.33	49.20	4.50	1910	800	900	1000		235	264	294	
11.11	48.91	4.50	1898	800	900	1000		235	264	294	
13.88	48.89	4.50	1898	800	900	1000		235	264	294	
16.66	48.87	4.50	1897	800	900	1000		235	264	294	
19.44	48.86	4.50	1897	800	900	1000		235	264	294	
22.22	48.85	4.50	1896	800	900	1000		235	264	294	
25.00	48.63	4.50	1888	800	900	1000		235	264	294	
27.77	46.76	4.50	1815	800	900	1000		235	264	294	
30.55	42.98	4.50	1668	800	900	1000		235	264	294	
33.33	42.35	4.50	1644	800	900	1000		235	264	294	
36.11	31.24	4.50	1213	800	900	1000		235	264	294	
38.88	26.36	4.50	1023	800	900	1000		235	264	294	
41.66	24.56	4.50	953	800	900	953		235	264	280	
44.44	21.39	4.50	830	800	830	830		235	244	244	
47.22	20.04	4.50	778	778	778	778		228	228	228	
50.00	19.76	4.50	767	767	767	767		225	225	225	
52.77	19.27	4.50	748	748	748	748		220	220	220	
55.55	18.70	4.50	726	726	726	726		213	213	213	
58.33	17.40	4.50	675	675	675	675		198	198	198	
61.11	16.76	4.50	651	651	651	651		191	191	191	
63.88	16.21	4.50	629	629	629	629		185	185	185	
66.66	15.87	4.50	597	597	597	597		175	175	175	
69.44	15.27	4.50	593	593	593	593		174	174	174	
72.22	14.97	4.50	581	581	581	581		171	171	171	
75.00	14.76	4.50	573	573	573	573		168	168	168	
77.77	13.11	4.50	509	509	509	509		149	149	149	
80.55	12.70	4.50	493	493	493	493		145	145	145	
83.33	12.64	4.50	491	491	491	491		144	144	144	
86.11	09.94	4.50	386	386	386	386		113	113	113	
88.88	09.14	4.50	355	355	355	355		104	104	104	
91.66	08.80	4.50	342	342	342	342		100	100	100	
94.44	01.21	4.50	47	47	47	47		14	14	14	
97.22	0.0	4.50	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
							Total	6677	7121	7543	8695

ANNUAL ENERGY STATEMENT WITH ONE UNIT OF 1000 KW.

Percentage Dependability	Discharge in cumecs	F.S.L. in Headrace Channel.	F.S.L. in Tailrace Channel	Gross Head in metre	Power Potential in KW	Discharge through the unit in cumecs.	Percentage of Design discharge in KWh.x10 ³	Annual energy generated
02.77	54.10	91.40	85.470	5.93	2101	25.80	100%	293
05.55	51.43	91.28	85.470	5.81	1997	25.80	100%	293
08.33	49.20	91.18	85.470	5.71	1910	25.80	100%	293
11.11	48.91	91.17	85.470	5.70	1898	25.80	100%	293
13.88	48.89	91.17	85.470	5.70	1898	25.80	100%	293
16.66	48.87	91.16	85.470	5.69	1897	25.80	100%	293
19.44	48.86	91.16	85.470	5.68	1897	25.80	100%	293
22.22	48.85	91.16	85.470	5.69	1896	25.80	100%	293
25.00	48.63	91.16	85.470	5.69	1888	25.80	100%	293
27.77	46.76	91.07	85.470	5.60	1815	25.80	100%	293
30.55	42.98	90.89	85.470	5.42	1668	25.80	100%	293
33.33	42.35	90.86	85.470	5.39	1644	25.80	100%	293
36.11	31.24	90.29	85.470	4.82	1213	25.80	100%	293
38.88	26.36	90.01	85.470	4.544	1023	25.80	100%	293
41.66	24.96	89.92	85.42	4.50	953	24.96	96.74%	179
44.44	21.39	89.70	85.20	4.50	830	21.39	82.90%	243
47.22	20.04	89.61	85.11	4.50	778	20.04	77.67%	228
50.00	19.76	89.59	85.09	4.50	767	19.76	76.59%	225
52.77	19.27	89.56	85.06	4.50	748	19.27	74.69%	220
55.55	18.70	89.52	85.02	4.50	726	18.70	92.48%	213
58.33	17.40	89.43	84.93	4.50	675	17.40	67.44%	199
61.11	16.76	89.39	84.89	4.50	651	16.76	64.96%	191
63.88	16.21	89.35	84.85	4.50	629	16.21	62.83%	185
66.66	15.87	89.32	84.82	4.50	597	15.87	61.51%	175
69.44	15.27	89.28	84.78	4.50	593	15.27	60.85%	174
72.22	14.97	89.26	84.76	4.50	581	14.97	85.02%	171
75.00	14.76	89.24	84.74	4.50	573	14.76	57.21%	168
77.77	13.11	89.12	84.62	4.50	509	13.11	50.81%	149
80.55	12.70	89.09	84.59	4.50	593	12.70	49.22%	145
83.33	12.64	89.08	84.59	4.50	491	12.64	48.99%	144
86.11	9.94	88.86	84.36	4.50	386	9.94	38.53%	113
88.88	9.14	88.79	84.29	4.50	355	9.14	35.42%	104
91.66	8.80	88.76	84.26	4.50	342	8.80	34.11%	100
94.44	1.21	87.98	83.48	4.50	47	1.21	4.69%	14
97.22	0.0	0.0	0.0	4.50	0	0.0	0.0	0
Total						87528		

TABLE -'H'
SEBARI S.H.P.
ANNUAL ENERGY STATEMENT WITH TWO UNITS OF 750 KW.

Percentage Dependability	Discharge in cumecs	F.S.L. in Head-race Channel.	F.S.L. in Tailrace Channel.	Gross Head in metre	Power Potential in KW	Annual energy generation through unit no.1 (500 KW)			Annual energy generation through unit no.2 (500 KW)		
						Discharge through the unit	% of Design discharge.	Annual energy generation kwh x 10 ³	Discharge through the unit	% of design discharge	Annual energy generation kwh x 10 ³
02.77	54.10	91.40	85.470	5.93	2101	12.90	100%	146.70	12.90	100%	146.70
05.55	51.43	91.28	85.470	5.81	1997	12.90	100%	146.70	12.90	100%	146.70
08.33	49.20	91.18	85.470	5.71	1910	12.90	100%	146.70	12.90	100%	146.70
11.11	48.91	91.17	85.470	5.70	1898	12.90	100%	146.70	12.90	100%	146.70
13.88	48.89	91.17	85.470	5.70	1898	12.90	100%	146.70	12.90	100%	146.70
16.66	48.87	91.16	85.470	5.69	1897	12.90	100%	146.70	12.90	100%	146.70
19.44	48.86	91.16	85.470	5.68	1897	12.90	100%	146.70	12.90	100%	146.70
22.22	48.85	91.16	85.470	5.69	1896	12.90	100%	146.70	12.90	100%	146.70
25.00	48.63	91.16	85.470	5.69	1888	12.90	100%	146.70	12.90	100%	146.70
27.77	46.76	91.07	85.470	5.60	1815	12.90	100%	146.70	12.90	100%	146.70
30.55	42.98	90.89	85.470	5.42	1668	12.90	100%	146.70	12.90	100%	146.70
33.33	42.35	90.86	85.470	5.39	1644	12.90	100%	146.70	12.90	100%	146.70
36.11	31.24	90.29	85.470	4.82	1213	12.90	100%	146.70	12.90	100%	146.70
38.88	26.36	90.01	85.470	4.544	1023	12.90	100%	146.70	12.90	100%	146.70
41.66	24.96	89.92	85.42	4.50	953	12.90	100%	146.70	12.06	93.49%	137
44.44	21.39	89.70	85.20	4.50	830	12.90	100%	146.70	8.49	65.81%	97
47.22	20.04	89.61	85.11	4.50	778	12.90	100%	146.70	7.14	55.35%	81
50.00	19.76	89.59	85.09	4.50	767	12.90	100%	146.70	6.86	53.18%	78
52.77	19.27	89.56	85.06	4.50	748	12.90	100%	146.70	6.37	49.38%	73
55.55	18.70	89.52	85.02	4.50	726	12.90	100%	146.70	5.80	44.96%	66
58.33	17.40	89.43	84.93	4.50	675	12.90	100%	146.70	4.50	34.88%	51
61.11	16.76	89.39	84.89	4.50	651	12.90	100%	146.70	3.86	29.92%	---
63.88	16.21	89.35	84.85	4.50	629	12.90	100%	146.70	3.31	25.66%	---
66.66	15.87	89.32	84.82	4.50	597	12.90	100%	146.70	2.97	23.02%	---
69.44	15.27	89.28	84.78	4.50	593	12.90	100%	146.70	2.37	18.30%	---
72.22	14.97	89.26	84.76	4.50	581	12.90	100%	146.70	2.07	16.05%	---
75.00	14.76	89.24	84.74	4.50	573	12.90	100%	146.70	1.86	14.42%	---
77.77	13.11	89.12	84.62	4.50	509	12.90	100%	146.70	0.21	1.63%	---
80.55	12.70	89.09	84.59	4.50	593	12.70	98.45%	144.70	--	--	---
83.33	12.64	89.08	84.59	4.50	491	12.64	97.98%	144	--	--	---
86.11	9.94	88.86	84.36	4.50	386	9.94	77.85%	113	--	--	---
88.88	9.14	88.79	84.29	4.50	355	90.14	70.85%	104	--	--	---
91.66	8.80	88.76	84.26	4.50	342	8.80	68.22%	100	--	--	---
94.44	1.21	87.98	83.48	4.50	47	1.21	9.38%	14	--	--	---
97.22	0.0	0.0	0.0	4.50	0	0.00	0.00%	0	0.0	0.0	0.0
TOTAL-						4860			2636.8		

Total of two units 7497 x 10³ Kwh

NOTE:	
1.	Discharge – 25.80 cumecs
2.	Head – 4.5 meter
3.	Side slope – 1:1.5
4.	Bed slope – 1 in 5000
5.	Bed width – 6.92 M
6.	Full supply depth – 2.150 M
7.	Over all machine efficiency = 88%
8.	Installed capacity – 100 KV
9.	Distance of Intake point from Fall – 160 M
10.	Bed level at Intake point – 87.85 M above M.S.L.
11.	Full supply level at Intake point – 90.003 M above M.S.L.
12.	Bed level near Power House Zone – 87.818 M above M.S.L.
13.	Full supply level at intake point – 90.003 M above M.S.L.
14.	Bed level in tailrace channel – 83.318 M above M.S.L.
15.	Full supply level in Tailrace channel – 85.471 meter above M.S.L.
16.	Plant load factor – 50 %
17.	Annual utilisation period – 67%
18.	Section of Head Race Channel and Tail Race Channel – Same

8.1.5.5 Having taken into consideration the above factors, it is proposed to install two units each of 500 kw capacity at this S.H.P.

8.1.5.6 The C.E.A. guidelines regarding standardisation of unit size states as under :

"Turbines: Various types of turbines to suit the combination of head and output have been developed in the world. In India, Pelton, Turgo-Impulse, Francis, Kaplan and Propeller type of turbines have been developed to cover head ranges between small and high heads. For very small head also, the know-how is available in the country with the already established firms. Other firms, both in private as well as public sector, have also shown interest in starting the manufacture of turbines for micro/mini/small hydro installation.

In the interest of standardisation, it is recommended that overall capacities of the unit may be chosen from the following:

10KW, 25KW, 50KW, 200KW, 250KW, 350KW, 500KW, 750KW, 1000KW, 1500KW, 2000KW, 2500KW, 3000KW, 3500KW, 4000KW, 4500KW and 5000KW' .

According to Table -'F' the Installed Capacity comes to 900kw, but as per the above guide lines proposal to install 1000kw. capacity have been envisaged. Also there is no provision of 900kw. Capacity. We have proposed to install at this S.H.P. syphon intake vertical semi-kaplan Turbines. The Canal remain closed under planned shut down for 3/4 months. The maintenance of Turbine can be planned during the period. In view of these considerations installation of two units each of 500kw capacity is justified and therefore, has been adopted for the S.H.P.

8.1.5.7 It has been envisaged to consider the following design data so as to have the maximum power from the proposed unit. .

- i. The turbine will have capacity for the maximum discharge of 25.80 cumecs and the constant rated head would be 4.50M.
- ii Annual energy generated per annum works out to 7497×10^3 Kwh against installed capacity of two units each of 500kw capacity.

8.1.5.8 Load factor

It has been envisaged that power house would run for 67% of the period in a year at 50% plant load factor. The system would be connected with the nearest grid near Nasriganj. As per present power scenario near the project site there is acute shortage of power in the vicinity and therefore this S.H.P. will run at higher load factor but for all calculation 50% load factor has been adopted.

CHAPTER- IX

PLANT LAYOUT & CIVIL STRUCTURE

9.1 The canal at the Sebari S.H.P. site located at 27.40 km of Ara Branch Canal, has two components :

- (i) Canal Lock System
- (ii) Fall System in the Canal.

Function of the two system differ in nature apart from keeping the canal in running condition.

9.1.1 Canal Lock System :

This consists of a huge brick work structure accompanied with massive two numbers of wooden gate of U/S and D/S side in the canal. The use of the canal was limited to the navigation purpose only i.e. to allow the passage of boats/ Steamers. In the modern scientific age this has been abandoned and all structures and wooden gates are in dilapidated condition.

9.1.2 Canal Fall System :

Fall of suitable height is functioning in this portion keeping the water level maintained according to the need of irrigating the field. The fall is also of huge brick work and steel channels are fixed, where wooden planks are placed as per requirement to control the water level. Excess water is allowed to spill over through this fall for the use of the down stream of the canal.

9.2 Utilisation of the lock system canal was considered for installation of power House at this site in view of economy but this proposal has been abandoned owing to the following facts :-

- a. Modernisation of the Sone Canal System which is in offing.
- b. Seepage water would be more in view of the hydraulic gradient as the power house will be very close to the fall system.
- c. Legal Aspect. Some legislation will be required.

9.3 It has been contemplated to install Power House on the bypass channel. The bypass channel would emanate from the distance of 160M on U/S of the fall and meet on the D/S of the fall through a Tailrace Channel.

9.4 POWER HOUSE

9.4.1 The locations of all the components of the Power-House is so selected that it requires about 100M wide strip of land in a length of 400M adjoining the existing canal. The required area of land is available, which belongs to the Irrigation Department.

9.4.2 Power House consists of three essential constituents namely- (i) Machine Hall or Unit bay; (ii) Control room; (iii) Erection bay and Auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. The size of Power House building will be 16m x 8m.

The ceiling height of the building will be 8.0M in order to facilitate the handling of equipments. Control room, Battery Room, Office and Stores have been located separately.

- 9.4.3 The Power House building will be constructed in brick masonry with R.C.C. stiffener provided at suitable intervals. The roof will consist of pre cast R.C. slab with false ceiling on steel trusses. These trusses would rest on the R.C.C stiffeners. R.C.C. lintels and bands would be provided at suitable interval so as to strengthen the whole structure. Adequate numbers of doors and windows will be provided for natural lighting and ventilation. R.C.C. raft foundation has been contemplated for installing the machine, equipment. Trash racks will be provided at the up stream of turbines to prevent the entry of floating materials into the machine.

The Power House building would be provided with lightening arrester suitably alongwith the grounding cables under the foundation of the machine for grounding the lightening surges.

- 9.4.4 Power House is envisaged to be located on the power channel itself. Syphon Intake Semi-Kaplan Vertical Turbine has been proposed. As such, provision of forebay or penstock is not necessary. Water would enter into the Turbine through Syphonic action.

9.5 Tailrace Channel

Tailrace Channel would be lined and has been designed accordingly. Discharge would remain same as in the case of power channel leading to the down stream of the fall in the main canal.

9.6 Modification work on existing canal fall site

- a. The existing fall in the main canal will be restructured & strengthened.
- b. Bridge: There is a bridge over the main canal and in continuation to this bridge one D.L.R. road bridge has been envisaged. This would facilitate the movement of general traffic over the power channel. Hand rails would be provided on the D.L.R. (Refer Para 8.1.3.4.)
- c. By the side of the existing main canal, Irrigation Channel is flowing and the position of this would be shifted. This channel would be constructed adjoining the power channel embankment so as to maintain the irrigation potentiality as it is.
- d. Approach road on both sides will be improved suitably so as to maintain the smooth movement of traffic.
- e. Provision of colony has been planned. This would accommodate the required staff for operation and maintenance. Land required for the Colony is kept as 4000 M².

CHAPTER –X

CONCEPTUAL DESIGN OF CIVIL STRUCTURE

10.1 Design of Civil Works

10.2 The Sebari S.H.P. consists of the following major structures :

- i. Head race channel & ESCAPE
- ii. Power House
- iii. Tailrace channel
- iv. Modification work on existing canal fall.
- v. Approach road, bridges and irrigation channel.

10.3 The geometric design of the project has been envisaged in such a way that the power potential of the fall is utilised in efficient and systematic way. The layout of power house and its allied components is proposed to be located in a bypass channel. The head race bypass channel will start from the upstream of the existing fall of the main canal and will be concrete lined. The down stream channel called tailrace channel will lead the water into the main channel downstream of the existing fall. The tailrace channel will be also lined.

10.3.1 The Power House will be equipped with trash rack arrangement to arrest logs etc. At the time of emergency tripping of the turbine, vacuum will be broken and thus water flow to the turbine will stop. There will be no need of agate in the power channel at entry of the power house and in the tailrace.

The headrace channel and tailrace channel, though located in the bypass channel, have been kept close to the main canal in view of economy as in this case length of the head race channel and tail race channel will be smaller.

10.3.2 ESCAPE

In case of sudden tripping of the generating unit, due to surge action the level of water in the power channel as well as in the canal will rise and may also damage its banks. For this Free-board of 2.13M has been provided in the power channel. The normal practice would have been to remove planks from the structure at the fall by electrical device in such circumstances but there may be a case when there will not be power available after tripping of the machine and it will take time to run the diesel generating sets available in the power station. It is, therefore proposed to provide an ESCAPE made of concrete & masonry in the power channel upstream of the power house and the excess water will be spilled through the ESCAPE and drained to the tailrace channel through hume pipes, A lump sum cost has been provided in the estimate, but detail design and engineering will be done at the time of execution of the project.

10.4 Design of Headrace Channel

Power channel will be concrete lined and of trapezoidal section.

10.4.1 As per power potential the design discharge is 25.80 cumecs adopted for this power station. Design is elucidated as under :

Discharge = 25.80 cumecs

$\eta = 0.0108$

Side slope = 1 : 1.5

Bed slope = 1 in 5000

Limiting velocity $V = (Q/4K_1K_2)^{0.25}$

Where $K = (N/\sqrt{S})^{3/2}$ and $K_1 = (2\sqrt{S^2+1}-S)$

$K = (0.018^2/\sqrt{1/5000})^{3/2} = (0.018/0.0141)^{3/2} = 1.44$

$K_1 = (2\sqrt{S^2+1}-S) = (2\sqrt{0.67^2+1}-0.67) = 1.737$

$V = (25.80/4 \times 1.73 \times 1.44^2)^{0.25} = (1.798)^{0.25} = 1.158 \text{ M/Sec.}$

Adopting Trapezoidal section and for Side Slope 1.5:1

$\cot \theta = 3/2$

$\therefore \theta = \cot^{-1} 3/2 = 34.1^\circ = 0.59 \text{ radians}$

$A = BD + D^2\theta + D^2 \cot \theta$

$P = B + 2D\theta + 2D \cot \theta$

$\therefore R = BD + D^2\theta + D^2 \cot \theta / B + 2D\theta + 2D \cot \theta$ Substituting the value of θ and $\cot \theta$

$\therefore R = BD + 2.09D^2 / B + 4.18D$

Let $V = 1.05 \text{ M/Sec.}$

$V = 1/\eta R^{3/2} s^{1/2}$

$R^{3/2} = 1.05 \times 0.018 / 0.01414 = 1.336$

$R = 1.544$

$A = 25.80 / 1.05 = 24.57$

$P = 24.57 / 1.544 = 15.914$

$A = BD + 2.09 D^2 = 24.57$

$P = B + 4.18 D = 15.914$

$B = 15.914 - 4.18 D$

$D (15.914 - 4.18 D) + 2.09 D^2 = 24.57$

$15.914 D - 4.18 D^2 + 2.09 D^2 = 24.57$

$-2.09 D^2 + 15.914 D - 24.57 = 0$

or $D^2 - 7.614 D + 11.755 = 0$

$D = 7.61 \pm \sqrt{7.61^2 - 4 \times 11.755} / 2$

$= 7.61 \pm \sqrt{57.973 - 47.02} / 2$

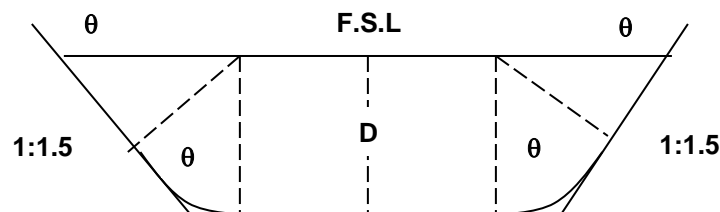
$= 4.61 \pm 3.31 / 2$

$D = 2.15 \text{ OR } 5.46$

Adopt $D = 2.15 \text{ Meter}$

$\therefore B = 15.914 - 4.18 D$

$= 5.914 - 4.18 \times 2.15 = 6.927 \text{ M.}$



Tailrace channel – the same section will be adopted for tailrace channel.

N.B. – Detail design & drawing of “ESCAPE” would be done at the time of execution of the project.

10.5 Head Loss

- 10.5.1 The Head Race and Tail Race channel will be open channel and of the same size. As per the design calculations made in para 10.4.1 the section of both headrace and tailrace channels will be as follows:

Discharge	24.70 Cumecs
Bed width	8.082 M
F.S.D.	1.981M
Bed slope	1 in 500
Side slope	1.5:1.

- 10.5.2 The bed level and F.S.L. of Power channel at Intake point is 87.85M and 90.00M above M.S.L. The length of Headrace channel is 160 metres. With the design slope of the channel the loss in Head upto the entrance of Power station will be 0.032 metre and thus bed level and F.S.L. at the entrance of Power house zone is 87.818M and 89.971M above M.S.L. respectively.

As the same section of the channel has been adopted for Tailrace channel, the bed level and F.S.L. in Tailrace channel would be 83.318M and 85.471 M above M.S.L. Thus the available Head will be 4.50 metres.

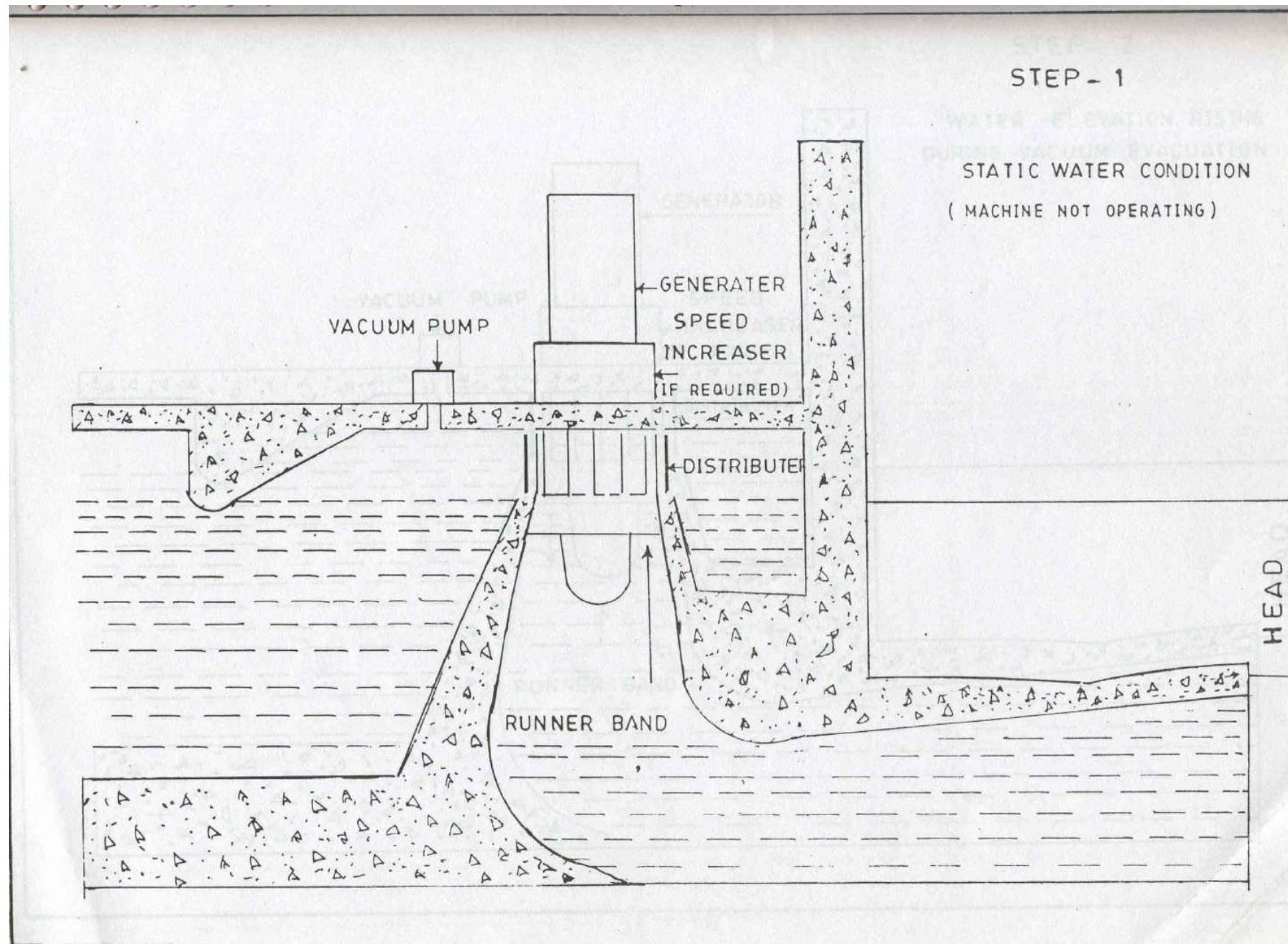
- 10.5.3 There would, however, be minor Head loss at the entrance of runner blades of the Turbine, but the runner blades are adjustable so that the Turbine can operate over a wide range of flows while maintaining good efficiency and hence such minor head loss is not taken into consideration.

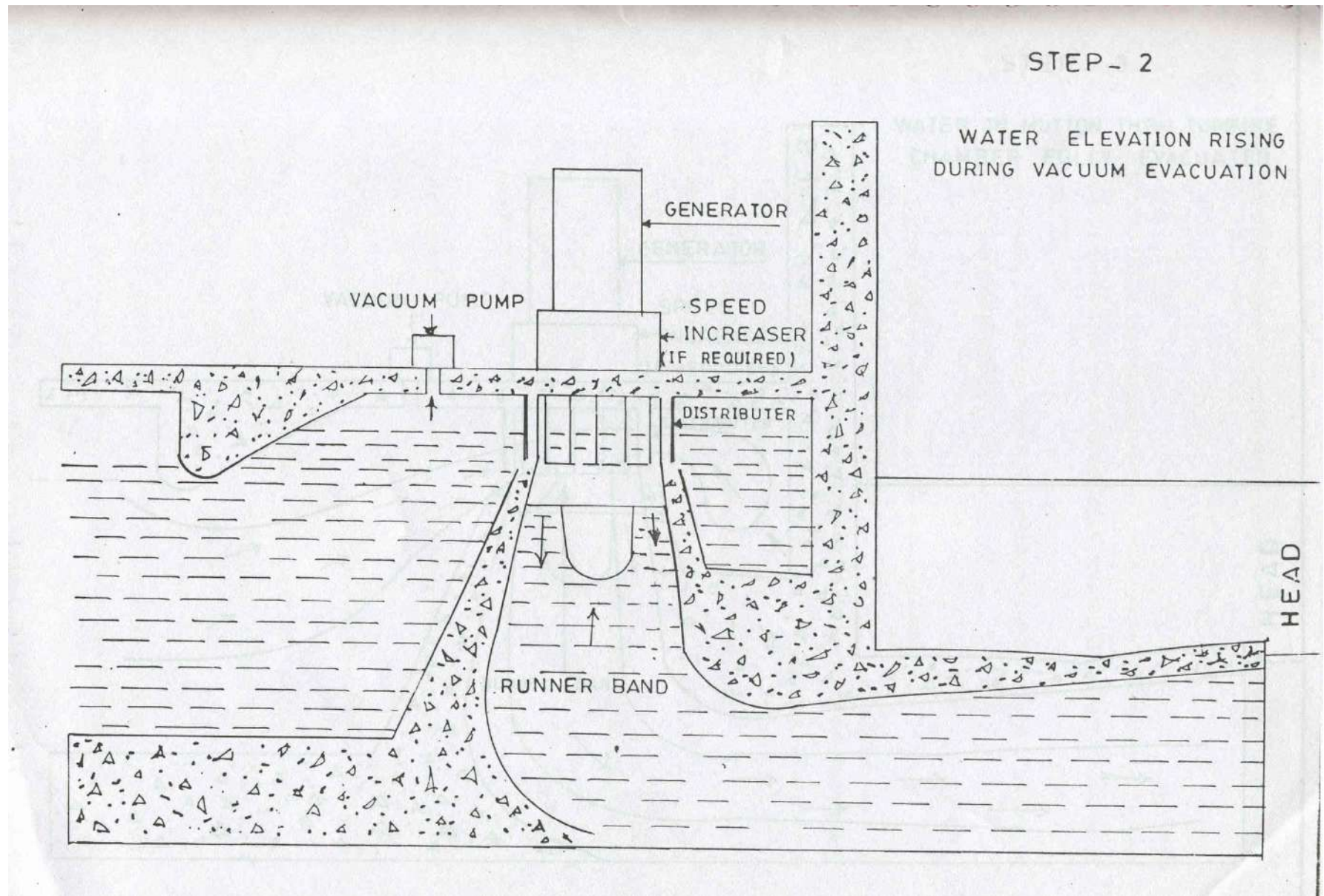
CHAPTER-11
TECHNICAL SPECIFICATION OF ELECTRICAL
& MECHANICAL EQUIPMENT

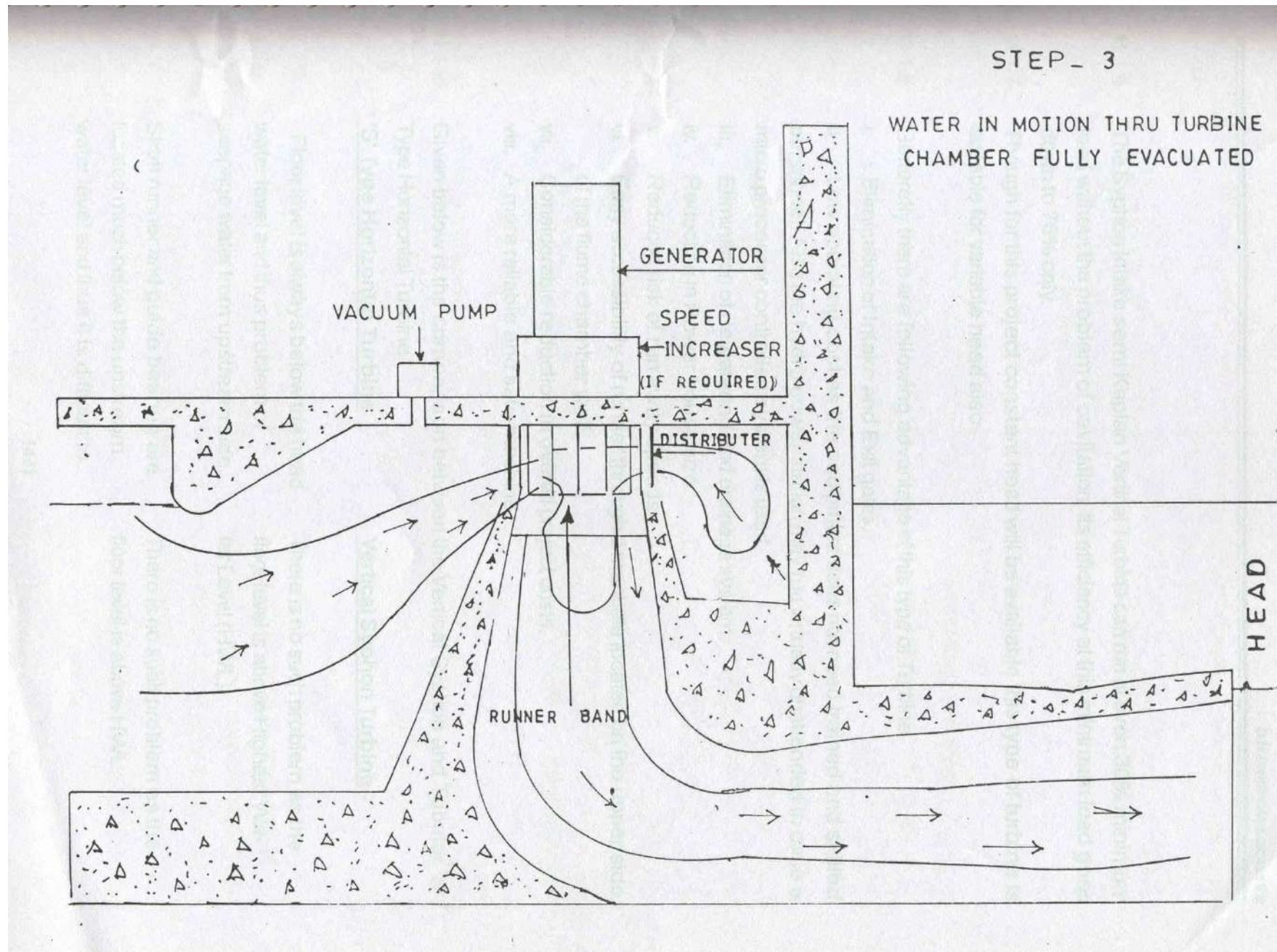
11.1 Turbine

- 11.1.1 For a low head machine which is needed for this project, it is a general practice in India to use Horizontal 'S' Tubular Turbine due to easy maintenance and better efficiency for low head installation. This choice is limited upto runner dia upto 3 meters. For a runner dia above 3M Bulb type offers the most economic solution. As the runner dia in this case will be less than 3.00M, the first choice goes for Horizontal Tubular Turbine.
- 11.1.2 The Tubular Turbine is a slow speed machine and it generally requires a gear box for speed increase in order to use a standard generator. Generally there is efficiency drop (1 to 2%) in the gear box. For Tubular Turbine there are four options i.e. Kaplan, Semi-Kaplan, Propeller with adjustable guide vanes, and Propeller type machine. In case of Propeller or Propeller Type Turbine, the efficiency range of operation is limited to 80% to 120% variation in head and 75% to 115% variation in discharge. In this particular case, the variation of head is negligible and there is only variation in discharge. The use of Propeller Turbine is, therefore, ruled out.
- 11.1.3 Kaplan Turbine has adjustable runner blades and guide vanes. In order to accommodate the runner blade adjustable mechanism in the runner home, the size of runner should be large enough. The Turbine is best suited where there is wide variation in head and/or discharge and its efficiency over a wide range of partial load is very good. Butterfly valve (BFV) for shut off purpose is not required in this type of turbine as the guide vanes themselves will close the turbine. The cost of this type of turbine is high.
- 11.1.4 Semi -Kaplan turbine has fixed guide vanes and adjustable runner blades. The necessity of large dia runner to accommodate mechanism for adjustable runner blade remains the same as for Kaplan turbine. Butterfly valve is required for shut off purposes. This type of turbine is less complicated than full Kaplan turbine. The efficiency range of operation is limited compared to the full Kaplan turbine. The cost of butterfly valve is however, considerable with the result that the overall cost of the machine sometimes becomes as high as that of Kaplan turbine which is more efficient over a wide range of operation than Semi - Kaplan turbine.
- 11.1.5 Now vertical semi-kaplan turbine with Syphon intake with adjustable runner blade and fixed guide vane are being very frequently used. Moveable runner blade is controlled by a hydraulic servomotor. The runner blades are adjusted to accommodate the variation in flow of water through the turbine and consequent control of load on the machine. This is achieved by movement of piston of runner servomotor. This also eliminates provision of intake/ draft tube gates. By adopting proper control of opening of runner blades the load on the machine will be adjusted such that the level of water in the upstream of the fall will remain undisturbed. In this case also a gear box is used between the turbine and generator for using standard generator and in this case also the efficiency comes down by 1 to 2% due to gear box. In this case the investment cost is also less as the cost of machine as well as the cost of civil works in

construction of power station is less. As the name suggests, the Vertical Turbine with Syphon Intake operation on the Syphon Principle i.e. the intake flume chamber valve is closed and made water tight and vacuum is created by a pump which enables water to enter flume chamber and energise the runner. When the machine reaches synchronous speed this is synchronised with the grid like any conventional turbine. Shut down is brought about by following the reverse procedure i.e. by breaking vacuum. Since turbine operates on a Syphon Principle, it is not necessary to have Intake and Draft Tube gates thereby reducing the cost. The drawing showing Step -I, II & III fully explain how the machine operation is started by creating Syphon Intake.







11.1.6 The Syphon Intake semi Kaplan Vertical Turbine can run at even 30% minimum load without the problem of cavitation. Its efficiency at this minimum load goes down to 76% only.

11.1.7 Though for this project constant head will be available this type of turbine is suitable for variable head also.

11.1.8 Generally there are following advantage of this type of Turbine.

- i. Elimination of Intake and Exit gates.
- ii. Low operating cost as the equipment does not need trained and skilled personnel. Also the hydro power station may run virtually unattended in case a micro processor controlled system is used.
- iii. Elimination of dewatering and drainage system.
- iv. Reduction in Power house size.
- v. Reduced risk of run away speeds
- vi. Easy accessibility of runner through a manhole located on the upper side of the flume chamber wall.
- vii. Considerable reduction in overall project costs.
- viii. A more reliable and safe machine.

11.1.9 Given below is the comparison between the Vertical Syphon and Tubular 'S' Type Horizontal Turbine.

<u>'S' Type Horizontal Turbine</u>	<u>Vertical Syphon Turbine</u>
Floor level is always below the head water level and thus problem of seepage water from upstream side.	There is no such problem as the floor level is above Highest Water Level (HWL).
Shaft runner and guide bearing are located much below the upstream water level and thus it is difficult to approach the same as there will always be some leakage through Gates.	There is no such problem as the floor level is above HWL.
Dismantling and assembly of shaft is very cumbersome as well as time consuming. Long shaft lengths add to this problem.	Dismantling of shaft and Reassembly is very simple and quick.
There is always some leakage of water through the glands during running as well as standstill condition as it is continuously under pressure.	There is no such problem in case of Vertical Syphon Turbine.
Complete weight of runner and part of shaft comes on guide bearings, therefore, its design and selection is very critical. It has been realised that there is a greater tendency of failure in the main guide bearing in horizontal shaft turbine due to the entry of silt in the bearings.	This type of problem is not associated with vertical type arrangement.

The replacement of guide bearing is quite trouble some as it is located inside the tubular casing and it needs special supporting fixtures for shaft before replacement.	There is no such problem as the guide bearing is approachable from the power house floor and is made in two split parts.
During floods, power house will be completely submerged.	In such case power house floor is always above HWL, hence the equipments are out of water.
It is difficult to stop the turbine rotation if gates have been stuck or seals have been damaged or silt has been accumulated on the sill beam. In such case the turbine continues to spin at high speed which could be extremely damaging to the turbine rotating parts.	Such problems are never faced as the machine can be brought to stand still condition by just breaking the syphon.
The size of power house is large	The powerhouse is compact in size.
Intake and draft tube gates are essential.	No intake and draft tube gates required.
The cost of civil works are high	The cost of civil works is low.
More maintenance required as 'S' type turbines are more prone to faults.	Low maintenance required and is less prone to faults.
Erection of T.G. equipment requires more time after civil works completion.	The T.G. equipment can be installed in a very short time after completion of civil works.
Turbines are mostly used for heads above 3M upto 20M.	Turbines are ideally suited for heads between 2M and 5M because of syphon system adaptability
'S' type turbine requires minimum straight length of intake channel leading to higher civil cost.	No such constraint of length of intake channel, thus reducing civil costs and allowing for cost effective layout.

As the machine size has been decided to be 1000KW in para 8.1.5.4 of this DPR it is recommended to have Two Units each of 500 KW vertical semi -Kaplan turbine with Syphon intake for this Power Station.

11.1.10 The guidelines of C.E.A. for preparation of D.P.R. does not take into account this type of turbine when the guideline was prepared in the year 1982 this technology had not been developed. Such turbines are in use in Punjab, Andhra Pradesh and in Orissa. This type of turbine is most economical and suitable for installation in canal fall sites. It is, therefore, recommended to have Vertical semi -Kaplan Turbines with Syphon Intake for this power station.

11.1.11 TURBINE COMPONENTS

Vertical Semi -Kaplan turbine with Syphone intake will generally consist of the following :

- Runner

- Shaft
- Head cover
- Discharge Ring
- Distributor
- Draft tube
- Chassis
- Coupling between turbine and gear box
- Coupling between gearbox and generator
- Servomotor for runner blades
- Hydraulic pumping unit
- Grease Pump / cooling Water System
- Vacuum Pump with Dewatering Valve
- Electronic Governor

Short description of important parts of the Turbine is given below:

Runner

The turbine runner will be fitted with 3/4 adjustable blades in stainless steel mounted on a steel hub.

The runner blades will be adjustable so that the turbine can operate over a wide range of flows while maintaining good efficiency.

The blade motion mechanism will be located inside the steel hub.

The blade bearings will generally be made of 'Orkot', a self – lubri - cating material with high mechanical resistance.

Seals will prevent water from entering the hub area where the blade serve mechanism is located.

All the parts -blades, hub, etc. are geometrically profiled, shaped and surface finished.

Prior to shipping the turbine, the runner blades will be carefully balanced.

TURBINE SHAFT

The turbine shaft is fitted with flanges for coupling the runner and speed increaser. This shaft is bored in order to accommodate the blade control rod for adjustability.

The shaft bearing is located inside the head cover, just above the runner. It is antifriction type, continuously lubricated by an external grease / water pump. The bearing material shall be THORDON/WHITE METAL and the bearing housing is in two halves so that it can be installed or removed without having to remove the shaft itself. Sealing is provided by a Teflon packing located above the shaft bearing. This concept allows for continuous lubrication of the seal of avoid any manual maintenance.

DISCHARGE RING

The Discharge ring will be fabricated from mild steel and will be machined in order to keep the gap between the blades and Discharge ring as narrow as possible. Its semi-hemispheric profile provides a maximum efficiency through the turbine runner.

The discharge ring is embedded in the concrete since it does not need to be disassembled for maintenance purpose.

HEAD COVER

The head -cover has two functions.

- Hydraulically: the head -cover assists the hydraulic shape of the distributor and provides the seal for the spiral casing.
- Mechanically : the head -cover supports the shaft bearing and shaft seal, and therefore, the runner. It is bolted to the distributor and can be removed easily for access to the runner.

DISTRIBUTOR

- Distributor will be fitted with fixed wicket gate which direct and orient the water flow towards the runner.
- All the surface of the wicket gates will be smooth, free from any defect and each wicket gate is partially machined on each side.

SPEED INCREASER

The speed increaser allows for the connection of the runner and generator. The speed increaser obtains a higher speed on the exit shaft. The multiplication ratio is calculated in such a way as to obtain the high speed shaft a speed close to the generators speed.

DRAFT TUBE

The draft tube shall be made of mild steel.

11.1.12 DEWATERING AND DRAINAGE SYSTEM

In principle dewatering system is not required since all mechanical components are out of water when the machine has stopped. It is not necessary to dry the flume chamber or the draft tube.

11.1.13 HYDRAULIC PUMPING UNIT

The hydraulic pumping unit consists of an oil reservoir and the pump which command and control elements of the hydraulic circuit. The pump feed the servo motor circuit.

The Pumping unit includes the following equipments:

- One hydraulic mechanical pump.

- Two hydraulic electro pumps (one main & one standby).
- Electro valve to open and close the blades and guide Vanes.
- Pressure control valves.
- Filters
- Flow reducers to set the opening & closing time.
- Monometers.
- Oil level control switch.
- Bearing lubrication system.
- Misc. accessories.

11.1.14 TURBINE CONTROLS

The Turbine will have the following controls :

	<u>S.No. Description</u>	
a.	Gate limit control	
b.	Auto manual selection switch	
c.	Speed level controller	Electronic
d.	Manual turbine gate control	Governor built in feature
e.	Turbine bladed lock	
f.	Water Level control	
g.	Over speed control	
h.	Control for oil pump motor	
i.	Turbine shut down control	

11.1.15 TURBINE SAFETY DEVICES

	<u>The Turbine will have the following Safety Devices</u>
a.	Turbine Guide Bearing Cooling water flow or Lube Oil flow
b.	Governor oil pressure low
c.	Unit over speed shut down
d.	Pressure tank oil pressure failure
e.	Manual emergency shut down
f.	Gear box bearing temp, high
g.	Gear box lube oil pressure low
h.	Turbine guide / trust bearing temperature

11.1.16 TURBINE INDICATION / RECORDING INSTRUMENTS

The Turbine will generally have the following Indicating / Recording Instruments:

S.No	Description
a.	Pressure of shaft seal cooling water
b.	Gate limit and gate position indicator
c.	Unit speed indication
d.	Over speed indicator
e.	Speed level setting indicator
f.	Speed droop -setting indicator

g.	Upstream / downstream water level indicator
h.	Unit output meter for power and energy
i.	Unit voltmeter
j.	Unit ammeter
k.	Pressure of regulating oil pressure system
l.	Level of oil in pump tank
m.	Pressure of standby oil pump
n.	Standby oil pump in operation
o.	Turbine bearing temp.
p.	Gear box bearing temp.
q.	Indication of runner blade.

11.2 GENERATOR

11.2.1 Where Electricity Grid is strong and stable it has become a practice to use induction generator as this is cheaper in construction, easy for operation as well as this eliminates the use of Governor and excitation system which considerably reduces the cost. In the case of this S.H.P., though the power is proposed to be fed to 33/11 KV Sub-station at Nasriganj of the Bihar State Electricity Board, the grid is not stable and very often there is no power available in the grid in which case machine will be idle. Hence, even though induction generator would be a cheaper proposition, the same cannot be used in this case. Naturally choice, therefore, goes to Synchronous Generator.

11.2.2 It is proposed to install two Synchronous Generators each of 500KW capacity, three phase 50 C.P.S., power factor 0.9. The Speed of the Generator will depend on the manufacturer as it will be depending on the speed of the Turbine and the speed of the Speed-Increaser. For this small size generator voltage of 415 V is economical and hence, generation voltage will be 415 V only. Moreover, this eliminates use of power-transformer for auxiliary consumption. The excitation system will be brush less using static excitation system with thyrister. The Synchronous generator will be able to operate in isolation as well as in parallel with the grid. For this, synchronising equipment will also be provided. The generator will be according to International standards with reference to special customer's requirements and latest I.E.C.C. recommendations. It shall be of vertical type with I.P. -23 / IC -01 degree of protection with its own air ventilation. The windings shall be insulated with Class 'F' insulation with temperature rise limited to class 'B' insulation. The Generator bearings will be pedestal mounted self oil lubricated sleeve bearing as sleeve bearings life will be more than 1,00,000 working hours. The bearing will be adequately insulated to prevent any harmful circulating current. The bearings shall also be suitable to withstand the runaway speed upto 15 minutes. The generator shall meet the requirements of B.I.S. -4722 / 92 and shall deliver rated output with temperature rise limited to 80°C over an ambient of 50°C and shall also be suitable to deliver 10% more power than the rated output continuously with temperature rise limited to 100°C on ambient of 40°C by E.T.D.

11.2.3 COOLING OF THE MACHINE

The Generator shall be enclosed in screen protected drip proof enclosure i.e. (IP -23 /

IC -01) .The Generator shall be air cooled.

11.2.4 Each Generator will generally consist of the following parts :

- Generator stator complete with frame, sole plates, stator core, winding with accessories and terminals.
- Generator rotor, complete with shaft, spider rim, pole with windings and accessories.
- One set bearing,
- One set of anti condensation spare heaters
- One set air guides
- One set brush less excitation unit with AVR
- One number base plate to mount the generator
- One set foundation bolts with nuts
- One set stator winding RTDs with terminals brought out in separate RTD terminal box.
- One set dial temperature with electrical contacts for alarm and trip for bearing
- One number RTD/BTD per bearing for temperature indication of bearing oil bath.

11.3. The Triveni Engineering and Industries Limited, New Delhi, who are manufacturers of this type of Turbine have, after considering all the aspects including specific speed of design to be adopted for this project, suggested the following parameters of Turbine, Speed Increaser and Generator.

Characteristic of the Equipment

- A. Turbine (2 units of 500 KW each)
Type -Vertical Semi Kaplan Turbine with Syphone Intake.

Technical characteristics of each Turbine

Rated net head.	4.50 metres
Design flow (Discharge)	12.90 cumecs
Rated Power	500 KW (at generator terminal)
Runner diameter	2000mm (approx.)
Runner Speed	190 R.P.M.

B. Speed Increaser

The Speed Increaser increases the speed from the turbine rotation speed to match the Generator speed.

Configuration	Vertical
Turbine	190 R.P.M.
Generator speed	1000 R.P.M.
Speed Increaser ratio	5.265

C. Generator

The Generator shall be synchronous type with the following characteristics:

Capacity	500 KW
Voltage output	415 V
Rated speed	1000 R.P.M.
Frequency	50 Hz
Insulation	Class "F"
Configuration	Vertical

N.B.- The above parameters will be reviewed at the time of detailed design & Engineering.

11.4 LT SWITCHBOARD AND GENERATOR CONTROL PANEL

The LT Switchboard will be sheet steel enclosed cubicle of 3mm sheet for doors and 2mm sheet for rest of the panel, free standing, floor mounting type dust and vermin proof for operation at 415V, 3 phase, 4 wire, 50 HzAC having aluminium busbar of rating 1600A and neutral of 800A (half the rating) generally comprising of the following equipment / accessories duly fitted and wired as required.

QUANTITY	DESCRIPTION
1 No.	Incoming panel with generator & turbine control panel each equipped with:
1	Triple pole electrically operated draw out type air circuit breaker of 1250A, 30KA rating at service voltage 415V having adequate breaking capacity with main arcing contacts, archutes, deion grids with mechanical ON / OF indicator. The breaker shall be provided with instantaneous magnetic release thermal overload and shunt trip coil suitable for 24V DC and provision for tripping the breaker from remote push button or from relay contacts.
1	Generator neutral isolating switch of rating 800A (TP) with all poles shorted mounted at rear of panel with pad-lock arrangements.
1	MISC, ammeter range 0 -800A flush mounting type with 3 way voltmeter selector switch having off position.
1	Power factor meter range 0.5 -1 -0.5 flush mounting type.
1	Reed type frequency meter range 45 -50 -55 Hz flush mounting type.
1	KW meter range 0 -600 KW flush mounting type size suitable for 3 phase, 3 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
1	KVAR meter flush mounting type suitable for 3 phase, 4 wire system
1	Triple pole over current relay (51V)
1	Negative phase sequence relay (46)
1	Over voltage relay (59)
1	Under voltage relay (27)
1	Check synchronising relay (25)
1	Generator differential relay (87G)
1	Stator Earth fault relay (64 G)
1	Loss of excitation relay (400)
1	Reverse power relay (32P)
1	Surge diverter.

11.4.1 CONTROLS

The following controls will be provided:

a.	Emergency off push button (mechanical)
b.	Generator anti -condensation heater ON & OFF switch,
c.	Panel heater ON and OFF switch
d.	Alarm acknowledge push button
e.	Healthy trip circuit test push button
f.	Reset push button
g.	Generator low oil pressure
h.	Breaker ON / OFF push buttons
i.	Voltage rise / lower spring return switch.

11.4.2 INDICATING LAMPS

The following indications will be provided on the control phase :

a.	Incoming circuit breaker on
b.	Incoming circuit breaker off.
c.	Auto trip Electrical fault
d.	Auto trip Mechanical fault
e.	Governor low oil pressure trip contact bypass
f.	Healthy trip circuit .
g.	DCC supply fail
h.	Turbine bearing temperature high
i.	Generator anti -condensation heater ON

11.4.3 The Switchboard will have following provisions:

<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	8 Point micro-processor based temperature scanner for generator stator winding and generator bearing temperature with alarm and trip setting.
1	Panel heater with suitable thermostat.
6	Single core current transformer ratio 800/5A class of accuracy PS for generator differential relay.
3	Double core current transformer ratio 800 / 5 / 5A
	Core -1 : Accuracy class 5 P 10 and burden 15 VA for protection.
	Core -2 : Accuracy class 1.0 and 6burden 15 VA for metering.
1	Single core current transformer ratio 800/1A accuracy class 1.0 and burden 10 VA for droop measurement.
1	Voltage transformer ratio 415 / V 3 / 110 / V3 V. burden 100 VA, accuracy class 1.0 for protection.
1	16 Window annunciation shall be provided for following fault annunciation
	a. Differential relay trip
	b. Over current relay trip

	c. Reverse power trip
	d. Over voltage relay trip
	e. Negative phase sequence relay trip
	f. Generator bearing temp. trip
	g. Generator stator winding trip
	h. Over speed trip
	i. Governor oil pressure low
	j. Emergency shut down
	k. Spare window 5 nos.

11.4.4. The following provisions will also be made in the Switch board Panel

QUANTITY	DESCRIPTION
20	Auxiliary relays for annunciation and tripping circuits.
3	Surge diverters on main busbar.
1	Over speed switch assembly and indicator
1	Automatic Voltage Regulator (AVR)
1	Automatic Power Factor Regulator
1	Voltage adjust motorised potentiometer
1	Auto manual changeover switch
1	Contactors
1	Rectifier Assembly
1	Motorised Variac
1	3 -Winding transformers

11.4.5 1 No. 415V Transformer Control Panel equipped with

1	Air Circuit breaker 800A, 30 KA, 415 V.
1	MISC ammeter range 0-800 A, flush mounting type, with 3 way selector switch having off position.
1	KW meter range 0-600 KW, flush mounting type, suitable for 3 phase 4 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
3	Double core current transformer ratio 800 / 5 / 5 A, burden 15 VA accuracy class 1.0 for metering and 5P 10 for protection.

QUANTITY	DESCRIPTION
1	Feeder ON indicating lamp
1	Feeder OFF indicating lamp
1	Emergency OFF push button (Mechanical)
1	Panel heater ON & OFF switch
1	Panel inside illuminating lamp with switch
1	Breaker ON & OFF push buttons

11.4.6 STATION AUXILIARY PANEL

This will generally consist of the following provisions –

1	Switch fuse unit of rating 250A
2	Emergency off push button (Mechanical)
6	Miniature circuit breaker rating TPN 63A, 415V.
8	Miniature circuit breaker rating TPN 20A, 415V.
10	Miniature circuit breaker rating SPN 16A, 415V.
18	Indicating lamps
1	Panel heater with thermostat.
1	Panel inside illuminating lamp.
1	MISC Ammeter with range 0 250A, flush mounting with selector switch.
1	KWH meter, flush mounting suitable for 3 phase 4 wire system.
2	Breaker ON/OFF push buttons
1	Earth fault relay
10	Miniature circuit breaker rating TPS 32A.415V.
3	Current transformer ratio 400/5A, class 1.0 burden 5VA for ammeter
4	Current transformer 800/5A class 5P 10, burden 10VA for E/F placed in neutral line.

11.4.7 SYNCHRONISING BRACKET

The Synchronising Bracket will be mounted on left hand side of the panel and shall be of swinging type and will have following provisions:

<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	Synchroscope
1	Double voltmeter
1	Double frequency meter
1	Synchronising check relay (25) with guard relay
1	Synchronising selector switch
1 set	Auxiliary relays
1	Synchronising lamp

11.5 POWER EVACUATION SYSTEM

- 11.5.1 As B.H.P.C. is not distributing power under licence from the Government and is mainly responsible for development for Hydel Power in the state, the power generated from this Power Station will be supplied to the grid of the Bihar State Electricity Board, who are responsible for power distribution in the State. The nearest 132/33/11 KV Sub-Station is at Nasriganj and therefore, single circuit 11 KV line will be constructed between this S.H.P. and the Nasriganj 33/11 KV Sub-Station of B.S.E.B. The length of the line will be 0.5 KM and will be constructed on PSC 200KG Pole with ACSR weasel conductor.

- 11.5.2 As the generator voltage is 0.415 KV power transformer of 1250 KVA capacity, 0.415/11 KV, 3 phase, 50 cps will be installed in the switchyard. For control of this transformer and the 11 KV transmission line the following provisions will be made in the switchyard.

	DESCRIPTION	QUANTITY
1.	12 KV 1250A, 30 KA Outdoor Vacuum Circuit breaker	1 No.
2.	1000 Amps, 11 KV Air Break Isolating Switches with Earth Switch outdoor type manually gang operated, double break type complete with operating mechanism.	1 No.
3.	Four core CTs on 11 KV side of Ratio 800/5/5 A: Core 1: Burden 30 VA, Class 1.0 for Metering. Core 2: Burden 30 VA, Class 5P10 for Protection.	3 Nos.
4.	Lightning Arrestors of 12KV, 10 KA rating	3 Nos.
5.	Single Potential Transformers of ratio 11 KV/ $\sqrt{3}$ /110V/ $\sqrt{3}$ Core 1: Burden 100 VA, Class 1.0 for Protection and Metering.	6 Nos.
6.	Structures for LA, 11 KV Breaker CTs, PTs and Isolators	1 set
7.	Earth Switch	1 set
8.	Earthing system for switchyard	1 set
9.	ACSR conductor, clamps, connector, etc.	1 set
10.	Cabling	1 set

The terminal equipments at B.S.E.B. grid sub-station at Nasriganj Hydel Power Station will be provided by B.S.E.B. and therefore, it has not been taken into account in the estimate.

11.5 L.T. POWER AND CONTROL CABLES

11.6.1 L.T. A.C. POWER CABLES

660/1100 V grade, I No.3 core, 500 x 2 Sqr. mm PVC sleeve Aluminium armoured conductor arid 415V Incoming Panel and Neutral Grounding Cubicle with suitable flexible connections and Jumpers.

660/1100V grade, 1 No.3 core 500 x 2 sqr.mm. PVC sleeved Aluminium armoured conductor for interconnection between 415V Switchgear and step up Power Transformer Primary with suitable flexible connections and Jumpers.

660/1100 V grade PVC insulated 3 1/2 Core, 150 sqr.mm Armoured Aluminium conductor power cable for interconnection between L.T. Panel and L.T. Station auxiliary panel (MCC).

660/1100V grade PVC insulated 3 Core, 150 sqr. mm Armoured Aluminium conductor power cable for interconnection between 415V Switchgear and MCC Panel and Lighting MCC.

11.6.2 L.T. CONTROL CABLES

660/1100V grade PVC insulated stranded copper conductor armoured cable for interconnection between field equipments a control panels including motors and MCC panels, CT/PT secondary connections and between various control panels to make the system complete for the equipment.

The following sizes of cables may be used:-

i.	3C x 10 sqr.mm
ii.	3C x 4 sqr.mm
iii.	2C x 2.5 sqr.mm
iv.	14C x 1.5 sqr.mm
v.	7C x 1.5 sqr.mm
vi.	3C x 1.5 sqr.mm

Control Cables upto 2.5 sqr.mm shall be solid conductor and above 2.5 sqr.mm the conductor shall be stranded

All control conductors shall be of copper.

11.7. D.C. SYSTEM

11.7.1 DC power will be required for control and enunciation purpose. For this 24 volt, 48 Ah capacity battery with provision of trickles charger, float charger, booster charger will be provided.

11.7.2 D.C. DISTRIBUTION SYSTEM

There will be five outgoing feeders and this distribution will consist of double pole DC on/off switch for outgoing feeders, fuse base, HRC link, indicating valves.

Typical Schematic diagram for 24V DC System is given in Exhibit No.8.

11.8 LIGHTING SYSTEM

11.8.1 The lighting system will be designed as per relevant IEC or IS standards. The lighting system may generally consist of the followings:-

a.	Industrial type fitting with 2 x 40W. fluorescent lamp	10 Nos.
b.	Industrial type fitting with 1 x 40W fluorescent lamp	4 Nos.
c.	Street light fitting with 150W lamp for the outer area of power house	10 Nos.
d.	3 phase industrial outdoor type power outlet	1 Nos.
e.	250W flood light high pressure sodium vapour lamps for switch yard	2 Nos.
f.	Emergency light fitting of 20DW	4 Nos.
g.	5A, 1 PH flush type socket	14 Nos.

h.	15A, 1 PH, industrial socket	14 Nos.
i.	Junction box suitable for 4 way entry	20 Nos.
j.	63A, metal clad, welding power socket	1 No.

11.9 VENTILATION

11.9.1 Power House Ventilation System will consist mainly of exhaust fan ceiling fan and pedestal fan. As this S.H.P. is located in a hot climate one 1.5 ton air conditioner will be required for its Control Room. The ventilation system will, therefore, consist of the following:-

a.	250W wall mounted fan	10 Nos.
b.	250W pedestal fan	09 Nos.
c.	Ceiling fan	06 Nos.
d.	1 ½ ton air conditioner	01 No.

11.10 FIRE FIGHTING SYSTEM

11.10.1 This power station is very small, it will be provided only with portable fire extinguishers. Generally the following fire fighting equipment will be provided in this power station:

a.	Foam type 9 litre capacity fire extinguishers.	10 Nos.
b.	CO ₂ type 6.5 kg. capacity fire extinguishers trolley mounted	09 Nos.
c.	CO ₂ type 22.5 kg. capacity fire extinguishers trolley mounted	2 Nos.
d.	Fire buckets	10 Nos.

11.11 EARTHING

The earthing system will be designed with fault current of 40 Kamps and soil resistivity equal to 20 ohm-mtrs. The calculation of earth mat will have to be done as per IS: 3042/1987. The duration of fault for calculating design of earth mat will be taken as T=1.09 sec. At the time of designing this earth mat, however the resistivity has to be measured and design should be done accordingly.

11.12 EMERGENCY POWER

This S.H.P. will be connected to the grid and so long as there is power in the grid even if the S.H.P. is not in operation AC power will be available at this S.H.P. and there will be no problem of lighting and for charging of the DC battery system. There may, however, be occasion when the S.H.P. is under shutdown and either due to trouble in the B.S.E.B. grid or due to trouble in the 11 KV line connecting this S.H.P. with the B.S.E.B. grid sub-station, there will be no power available for a few days. In such circumstances, power will be needed for emergency lighting and for charging of the battery system. It is, therefore, proposed to install a 30 KVA three phase, 50 cycles per sec., 0.415 KV Diesel Generator set to be installed in this power station. Provision has, therefore, been made in the estimate for this Diesel Generating

unit with its control board.

The Generating Set will also be used during construction of the Power Station.

The Exhibit No.9 gives the typical schematic diagram of emergency supply

CHAPTER –12

CONSTRUCTION MANAGEMENT AND MAN POWER PLANNING

2.1 Land Acquisition

- 2.1.1 Land required for the Power Station belongs to the Water Resources Department of Government of Bihar. As soon as in-principle sanction of the project is obtained, the Water Resources Department should be approached for transfer of land required for the Power Station, Switchyard and the Colony to the implementing Authority i.e. either B.H.P.C. or any N.G.O. Further action on the project should be taken up when the decision of land transfer is obtained.

2.2 Appointment of Consultants

- 2.2.1 After the in-principle sanction of the land immediate action should be taken for appointment of a Consultant for detailed design, and engineering so that no time is lost between sanction of the project and start the activities like detailed design and engineering. Before starting detailed design and engineering actual bearing capacity test at site has to be done for design of civil structure.

2.3 Contract package

- 2.3.1 Contract package in this case will only be the following:

i.	Contract for the Consultants for detailed design and engineering.
ii.	Contract for construction for civil works.
iii.	Contract for the detailed design, engineering, manufacture, supply erection, testing and commissioning of electrical and mechanical equipment.
iv.	Contract for construction of transmission line as this is not generally done by the plant manufacturers.

- 12.3.2 The turn key job for such projects may be easy to handle but once we appoint a Consultant separate contracts for each of the above packages will be more economical. However, decision is left to be taken by the Implementing Authority.

12.4 Transportation of heavy equipment

- 12.4.1 The heaviest equipment in this case will be the gear box for increasing the speed for using a standard generator. This is expected to be about 10 Tones but it may depend on the different manufacturers. In the power house there will be provision for 10 Tons semi -automatic over- head travelling crane. The supply of plant and equipment should be planned in such a manner that plant and equipment start arriving only after the power station building is ready with approach road and commissioning of overhead travelling crane. This will help for saving of expenditure on a storage shed for storing the plant and equipment and transport of the same to the power house building for erection work.

- 12.4.2 It may however, be necessary to build a Small storage shed for storage of instruments and other delicate instruments at site.

12.5 Approach Road

- 12.5.1 The first item that has to be looked into is repair and strengthening of the approach road with culverts in between so that there may not be difficulty in transport of the equipment at site.

12.6 Man Power Planning

- 12.6.1 This is a small Power Station and in initial construction stage the staffing pattern will be as follows:-

1.	Project Engineer (of the rank of Asst. Elec. Engineer)	01 No.
2.	Asst. Engineer (Civil)	01 No.
3.	Junior Engineer (Civil)	01 No.
4.	Junior Engineer (Elec.)	01 No.
5.	Peons	02 Nos.
6.	Security Guards	03 Nos.

12.7 Staff requirements for operation and maintenance

- 12.7.1 Staff requirement for operation and maintenance will be as follows:

1.	Junior Engineer (Elec.)	01 No.
2.	Operators	04 Nos.
3.	Errand Boys	04 Nos.

The Assistant Electrical Engineer working in other Power Station of the area will also remain In-charge of this Power Station.

- 12.8 The requirement of quarters at site will be

i.	Junior Engineers quarter	01 No
ii.	Operators quarters	04 Nos.
iii.	Errand boys quarters	04 Nos.

These quarters should be constructed in the initial stage so that the same is used during construction work also.

- 12.9 A bar charge showing implementation programme of the project is enclosed as Exhibit No.10.

CHAPTER -13
PROJECT COST ESTIMATE

- 13.1 While framing the project cost estimate tentative design of the power channel, tailrace channel, power station building, D.L.R. bridge, approach road, etc. has been prepared and based on that the quantity of work involved has been calculated. The rates for civil works have been taken from the scheduled rates notified by Patna Division of P.W.D., Govt. of Bihar in October, 1998. The location of this power station falls in the area of the Division for which the rates have been prescribed.
- 13.2 As regards cost of the electrical and mechanical equipment the recent tender received against different works for Bihar and near about Bihar have been taken into consideration. Budgetary Rates have also been obtained from manufacturers. The scheduled rates for transmission line is as per the schedule rates of the Bihar State Electricity Board. Budgetary offers have also been obtained for E/M equipments.

ABSTRACT OF PROJECT COST

Cost Head	Item	Cost(Rs. In lakh)
100	Preliminary	Rs.5.11 lakhs
102	Temporary Construction and Enabling works Permanent Building works	Rs. 20.60 lakhs
200	Land	Rs. 7.73 lakhs
300	All other Civil Works	Rs.159.00 lakhs
400	Electrical/Mechanical Works	Rs. 303.00 lakhs
500	Associated Transmission system	Rs. 2.00 lakhs
600	Trial and Commissioning activities	Rs. 1.00 lakhs
	Total works	Rs. 516.65 lakhs
800	Overhead construction Account	
	a. Establishment and Overhead construction charges (5% of total)	Rs.25.83 lakhs
	b. Audit and Accounts (1% of total works)	Rs. 5.16 lakhs
	c. Tools & Plants	Rs. 05.00 lakhs
1000	Physical contingency (3% of total works)	Rs. 15.50 lakhs
	Grand Total	Rs. 568.19 lakhs
	Say :- 568.20 Lakhs	

**GENERAL ABSTRACT OF COST FOR LAND
COMMUNICATION AND OTHER CIVIL WORKS**

	Sub Head	Amount (Rs. In lakh)
A	Preliminary	Rs. 5.11 lakhs
B	Land	Rs. 7.73 lakhs
K	Building	Rs. 20.60 lakhs
J	Other Civil Works	Rs.159.21lakhs
i.	Power Channel with lining and S.L.R. Bridge	Rs. 22.05 lakhs
ii.	Power House (Civil works)	Rs.95.43 lakhs
iii.	Tailrace Channel with lining and S.L.R. Bridge	Rs.21.13 lakhs
iv.	D.L.R. Bridge	Rs.12.90 lakhs
v.	Miscellaneous Civil works	Rs. 01.10 lakhs
vi.	Communication	Rs. 06.60 lakhs
	TOTAL	Rs.159.00 lakhs
E	Tools & Plants	Rs. 05.00 lakhs.

DETAILS OF COST UNDER THE SUB -HEAD

A. PRELIMINARY

S.No.	Particulars	Amount In Rs.
1.	Detailed alignment, survey of Power channel, Tailrace Channel including dog belling, fixation of pillars etc.	L.S. Rs. 50,000.00
2.	Establishing and fixing bench marks	L.S. Rs. 01,000.00
3.	Digging test pits along canal alignment and at structure site	L.S. Rs.05,000.00
4.	Bearing pressure test at Power-House sites and canal structures site and bore hole at site	L.S. Rs. 45,000.00
5.	Charges for consultancies for detailed design and engineering	L.S. Rs.4,00,000.00
6.	Training of Engineers	L.S. Rs. 10,000.00
	TOTAL-	Rs. 5, 11,000.00
	SAY-	Rs.5.11 lakhs.

DETAILED COST UNDER SUB -HEAD
B - LAND

S.N.	Particulars	Qty.	Rate	Unit	Amount
1.	Permanent land for acquisition Headrace channel, Power House, Tailrace channel, Switch Yard, etc.	3 Hect.	Rs.80,000/-	Per Acre	Rs.6,00,000/-
2.	Permanent land for construction of camps, colony	0.4 hect	Rs. 2.0 lacs	Per Hect.	Rs. 80,000/-
3.	Compensation for standing crops for 3 Hect.	3 Hect	Rs.30,000/-	Per Hect.	Rs. 90,000/-
4.	Demarcation, dog belling and fixing of boundary pillars including joint verification.	L.S.			Rs. 2,500/-
				TOTAL-	Rs. 7, 72,500/-
				SAY-	Rs.7.73lakh

DETAILS OF COST UNDER THE SUB -HEAD

K. BUILDINGS

Residential Buildings with electrification, sewerage and plumbing

Junior Engineer	1 No.	@ 95 M ² Each	95 M ²
Operator / Asstt. Controller	4 Nos.	@ 70 M ² Each	280 M ²
Grade IV staff	2 Nos.	@ 40 M ² Each	80 M ²
	Total for residential building		445 M ²
		@ Rs. 4,000/- M ²	Rs.18,20,000/-
Non- Residential Building (Temporary)			
Store shed	10 M x 8M = 80 M ²		Rs. 2,40,000/-
	@ Rs.3,000/- M ²		
		TOTAL-	Rs. 20,60,000/-
		Say -	Rs. 20.60 lakhs

J-POWERPLANT/APPERTENANCES AND OTHER (CIVIL WORKS)
GENERALABSTRACTOFCOST

S.N.	Particulars		Cost in Rs. Lakhs
1.	Power Channel:		Rs. 22.25 lakhs.
i.	Earth Work	5.42	
ii.	Lining	8.71	
iii.	Pucca structures (S.L.R. Bridge)	7.92	
		22.05 Lakhs	
2.	Power House		Rs. 95.43 lakhs
3.	Tailrace Channel		Rs. 21.13 lakhs
i.	Earthwork	3.01	
ii.	Lining	10.20	
iii.	Pucca structure (S.L.R. Bridge)	07.92	
		21.13 lakhs	
4.	D.L.R. Bridge	12.90	Rs. 12.90 lakhs
5.	Miscellaneous		Rs. 01.10 lakhs
6.	Communication		Rs. 06.60 lakhs
		TOTAL-	Rs. 159.21 lakhs

ESTIMATED COST FOR EXCAVATION OF POWER CHANNEL

<u>S.N.</u>	<u>Item of work</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Amount</u>
1	Earth work in excavation in all kinds of soil within initial lead of 50M and initial lift as per drawing, specification and direction of Engineer In-charge. (Page- 85, Item No.10.1.7)	4300	M ³	Rs.17.90	Rs. 76,970/-
2.	Earth work in filling in embankment in all kinds of soil with initial lead of 40M and initial lift of 1.5M as per specification and direction of Engineer In-charge. (Page-86, Item No. 10.1.9)	20000	M ³	Rs.16.95	Rs. 3,39,000/-
3.	Extra for each additional lead of 25M of part thereof over initial lead of 30M as per specification (one number extra lead).	18000	M ³	Rs.2/-	Rs. 36,000/-
4.	Extra for additional lift of 1.0M or part there of over initial lift of 1.5M as per specification (two lifts) in Item No. (1) & (2) above.	12000	M ³	Rs.2/-	Rs. 24,000/-
5.	Extra for hard soil 11 0% of Item 1&2.	2000	M ³	Rs. 2/-	Rs. 4,000/-
6.	Extra for hard soil 10% of Item (1)	1000	M ³	Rs. 2/-	Rs. 2,000/-
7.	Extra for consolidation in all layers with sheep foot roller including watering as per specification.	24,300	M ³	Rs. 2/-	Rs. 48,600/-
8.	Fine dressing & turning with 3" thick grass sods obtained with a lead of 150M and with all lifts (Page-97.Item-10.1.41.1).	5000/-	M ²	Rs.2.30	Rs. 11,500/-
				Total-	Rs. 5,40,070/-
				Say-	Rs. 5.42 lakhs

**ESTIMATE OF COST OF LINING OF POWER CHANNEL
OF SEBARI SMALL HYDROELECTRIC PROJECT**

<u>Sn. No.</u>	<u>Item of work</u>	<u>Quan- tity</u>	<u>Unit</u>	<u>Rate</u>	<u>Amount</u>
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed well including wetting of required etc. all complete job as per direction of Engineer In-charge for laying PCC pre cast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page - a 96, Item-10.1.36)	3000	M ²	Rs.4.10	Rs. 12,300/-
2.	Providing 0.6 x 0.45 x 0.056M. pre-cast PCC (1 :3:6) slab in the side slope and bed of the canal with groove of the x slab etc. set in cement mortar (1:3) and flush pointing (1 :2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In-charge. (Page-1 03, Item-0.2.19).	5200	M ²	Rs.125/-	Rs.6,50,000/-
3.	Providing PCC(1:3:6) with approved quality of graded stone chips of 20mm and down size and coarse granular sand of approved quality in lug slab, cross and longitudinal sleepers for lining of canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. wit all lifts and leads, removal of shuttering etc all complete job as per drawing, specification and direction of Engineer In-charge.	50	M ³	Rs.2184.90	Rs.1,09,245/-
4.	Providing intake wall with cement concrete (1:2:4) with approved quality of stone chips 20mm down to 6mm graded and quality sand including the cost of form	10	Nos.	Rs.396.40	Rs.3,964/-

	work, making space for under drainage pipes, fixing bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labor and materials as per specification and direction of Engineer In-charge (Page -98, Item - 10.2.3).				
5.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete (Page-101, Item-10.2.10.1).	500	M	Rs.18.60	Rs.9,300/-
6.	Supplying, fitting and fixing 150mm dia vertical non return valves complete with bolts, nuts plates etc. all complete.	15	Nos.	Rs.2500/-	Rs.37,500/-
7.	Supplying, fitting and fixing 50mm dia non return pocket valves complete with bolts, nuts etc. all complete.	30	Nos.	Rs.1500/-	Rs.45,000/-
8.	Lip cutting for providing trans filter and drain all complete job including the cost and laying of sand stone chips filter of graded all complete job as per direction of Engineer In-charge.	650	M ³	Rs. 25/-	Rs.15,250/-
				TOTAL-	Rs.8,71,059/-
				SAY -	Rs. 8.71 Lakhs.

ESTIMATE OF COST OF CONSTRUCTION OF EACH S.L.R. BIDGE :
ONE ON POWER CHANNEL AND ONE IN TAILRACE CHANNEL. OF SEBARI S.H.P.

S. N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches in all kinds of soils with all leads & lifts as per drawing, specification and direction of Engineer In-charge.	250	M ³	Rs.21.90	Rs.5,475/-
2.	P.C.C. (1:3:6) M-100 in foundation of piers with stone metal 1 ½” and down and Sone sand (washed and screened) including the cast of cantering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In-charge.	26	M ³	Rs.2134.90	Rs.55,507.40
3.	1 st class brickwork in C.M. (1:4) with quality Sone sand w/s in foundation and superstructure including cost of curing, as per drawing, specification and direction of Engineer In-charge. (Page -113, Item-10.4.2).	155	M ³	Rs.1427.80	Rs.2,21,309/-
4.	Earth work in filling in foundation trenches with previous soil including watering & remaining in layers as per specification and direction of Engineer I/C complete.	145	M ³	Rs.16.95	Rs.2,467.40
5.	R.C.C.M-150 (1:2:4) with stone chips ¾ and down and Sone sand (washed & screened) in bearing slab of piers including cost of shuttering, centering and currying etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer I/C. (Page-105, Item-10.3.4).	15	M ³	Rs.1737.55	Rs.26,063.25
6.	Providing roller boring with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer I/C (for class A loading).	8	Sets	Rs.500/-	Rs.40,000/-
7.	R.C.C. (1:2:4) M-150 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/C (Page-110, Item- 10.3.13).	25	M ³	Rs.1746.30	Rs.43,657.50
8.	Providing expansion joint in deck slab and weasing coat with angle iron and master fillet etc. including cost of supply, filling and mixing complete.	12	M	Rs.250/-	Rs.3,000/-
9.	R.C.C. (1:2:4) M-150 with Stone chips ¾” and down and Sone sand w/s in pre cast wall including cost of shuttering, centring and curing, etc. complete but excluding cost of reinforcement.	6	M ³	Rs.1732.55	Rs.10,425.30
10.	R.C.C. (1:1 ½ :3) M-200 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/C (Page-110, Item- 10.3.13).	20	M ³	Rs.2094.30	Rs.41,886/-

11.	Providing 4" dia G.I. drain water pipe in deck slab with perforated cap including cost of material & labor complete as per specification and direction of Engineer In-charge.	12	Nos.	Rs.80/-	Rs. 960/-
12.	Providing R.C.C. (1:2:4) M-120 railing and railing post with stone chips ¾" and down and Sone sand including cost of reinforcement as per specification and direction of Engineer In-charge.	35	M³	Rs.1737.85	Rs.60,814.25
13.	Providing deep ruled cement in C.M. (1 :3) with Sone sand (w/s) as per specification and direction of Engineer I/C on brick work exposed surface (Page-122, Item- 10.5.11)	150	M³	Rs.37.10	Rs.5,565/-
14.	Providing reinforcement in R.C.C. work including cost of cutting, beading, placing in position and binding with 16 BWG wire complete s per drawing, specification and direction of Engineer I/c.	12	MT	Rs.17,309.80	Rs.2,07,711.60
15.	Providing Wheel guard post of R.C.C. (1:2:4) with stone chips ¾"nd down and Sone Sand (w/s) 3' -6' long and 9" dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification all direction of Western Link Canal Hydro electric Project)	35	Nos.	Rs.45/- each	Rs.1,575.00
16.	Dewatering, Diversion of Road and site clearance, etc.	L.S.			Rs.65,000/-
				TOTAL-	Rs.7,91,416.70
				Say-	Rs.7.92 lakhs.

Note:

1. Cost of one No. S.L.R. Bridge on Power Channel Rs. 7.92 lakhs
2. Cost of one No. S.L.R. Bridge on Tailrace Channel Rs. 7.92lakhs.

**ESTIMATE OF COST FOR CONSTRUCTION OF POWER HOUSE OF
SEBARI SMALL HYDROELECTRIC PROJECT**

POWER HOUSE

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches of Power House structures service ways, retaining walls u/s & d/s aprons etc in all kinds of soil wet & dry including all lifts & leads by manual labor as per drawing, specification and direction of Engineer I/C. (Vide Item No. 10.1.7 & 10.1.33.1 & 10.1.34.1 Page -85, 93 & 94 of Volume No. III & IV).	3200	M ³	Rs.21.90	Rs. 70,080/-
2.	Earth work in filling with selected earth on back fill of abutment wing walls and foundation trenches in larges not exceeding 15cm well watered rammed fully completed by machine at CMC to the desired percentage of maximum dry density with all lifts & leads as per drawing, specification and direction of Engineer I/C (Page-86, Item-10.1.9).	5600	M ³	Rs.16.95	Rs.94,920/-
3.	P.C.C.M. 7.5 (1:4:8) in foundation well below raft including cost of materials labor, mixing conveying laying, compacting and curing alongwith the cost of shuttering and centering all complete as per drawing, specification and direction of Engineer I/C. (Page-104, Item 10.3.2).	22	M ³	Rs.1268.26	Rs.29,169.98
4.	(a) Providing and laying RCC M-200 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its banging, binding, cutting & placing with position, (vide page -108, Item 10.3.10).	715	M ³	Rs.2016.25	Rs.14,41,618.70
	(b) Providing and laying RCC M-15 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of reinforcement and its banging, binding, cutting & placing with position and direction of Engineer I/C. (Page -109, Item 10.3.12).	150	M ³	Rs.1729.95	Rs.2,59,492.50
5.	Supply & laying for Steel reinforcement in concrete work including straighting, derusting, curing, bending & binding with 16/20 SWG annealed wire, welding top but etc. with approved electrodes,	56	MT	Rs.17,309.30	Rs.9,69,320.80

	providing cone block pins chain supports or reinforcement etc. with all materials complete as per drawing, specification and direction of Engineer In-charge (Page - 122, Item No.1 0.3.22).				
6.	Supply, fabrication, erection, fitting, fixing, painting & hoisting of roof trusses including embedded parts as per drawing, specification & direction of Engineer I/C. (Vide Page -18 and 126, Item No. (ii) and 5.5.28).	20	MT	Rs.21,452.80	Rs.4,29,056/-
7.	Supply, fabrication, fitting and fixing in position pressure release pipe and M.S. grill railing, steel ladders and steel hoisting agreements chequered plates, etc wherever necessary as per drawing, specification and direction of Engineer I/C. (Page -122, Item 3.5.28 and Page-18).	25	MT	Rs.23,352.80	Rs.5,83,820/-
8.	(a) Supply, erection, fitting & fixing of embedded plates 12mm thick to trash rack beams of the Power House as per drawing, specification and direction of Engineer In-charge.	10	MT	Rs.21,452.90	Rs.2,14,528/-
8.	b. Supply, erection, fitting & fixing of MS. Flats/rods in surrounding Mat/cables for earthing etc. all complete job as per direction of Engineer In-charge.	8	MT	Rs.21,452.80	Rs.1,71,622.40
9.	Providing and fixing steel doors and windows fully glazed etc as per I.S. specification and direction of Engineer I/C. (Page-120, Item 5.5.18).	60	M ²	Rs.1173.10	Rs.70,386/-
10.	Supplying, fitting and fixing in position 16 gauge rolling steel shutter as per I.S. specification including all railings, roller bearing, locking (double lock) arrangement as per direction of Engineer I/C. (Page-119, Item- 5.5.16).	15	M ²	Rs.977.70	Rs.14,665.50
11.	Providing & fabricating steel purling C.P.E. including the cost of its erection and one coat of protective painting as per specification and direction of Engineer I/C.	8	MT	Rs.21,452	Rs.1,71,622.40
12.	Providing & fixing 100mm H.C.I. rain water down pipe including its all fittings complete s per specification and direction of Engineer I/C. (Page-56, Item24 (c) and Item 12.1.45.3, Page-220).	90	M	Rs.226.80	Rs.20,412/-
13.	Providing all materials & labour for expension joints including supplying, fixing and placing of 230mm water stops filling with asphalt in diamond shaped hole in concrete of size 125mm square & providing 1 no. 12mm galvanised	50	M ²	Rs.985.35	Rs.49,267.50

	standard, stream pipe, pipe clump & 12x250mm bolts & fixing 25mm thick bituminous board in the gap of the existing joints as per drawing, specification and direction of Engineer In-charge. (Page-161, Item - 5.10.25).				
14.	Supply & laying standard son of terphelt or equivalent water proofing material in double layers of tarpelt treatment in five course over exposed roofs of Power House treating the top with gravel 100 Sq. ft. of surface (it will be the 6 th and last course as per I.S.S. and manufactures specification the surface with brush and cloths lightly socket in vasing oil and cost of all materials & labour complete job as per drawing, specification and direction of Engineer I/C. (Page-32, Item-84).	220	M ²	Rs.950/-	Rs.2,09,000/-
15.	Providing and laying 25mm thick mosaic tile flooring/glazed tiles as per specification and direction of Engineer I/c. (Page-130, Item-5.6.15(c).	200	M ²	Rs.398.55	Rs.79,710/-
16.	Providing & laying wall finishing work including coloring etc.	L.S.			Rs.2,40,000/-
17.	Providing & Painting steel structure, windows doors and etc.	L.S.			Rs.30,000/-
18.	Providing & fixing water supply and sanitary installation work.	L.S.			Rs.40,000/-
19.	Providing & fixing electrification works.	L.S.			Rs. 40,000/-
20.	Site clearance, leveling and dressing.	L.S.			Rs. 15,000/-
21.	Dewatering during construction.	L.S.			Rs.23,00,000/-
22.	Providing & Laying pre cast slab R.C.C. *M-150) as per design and drawing all complete job (Over roof Trusses).	L.S.			Rs.1,50,000/-
23.	Providing and laying foam concrete complete job over the pre cast slab as per design and instruction of Engineer I/C.	L.S.			Rs.2,00,000/-
24.	Providing & Laying of "ESCAPE" & shifting of the existing village channel all complete job.	L.S.			Rs.16,50,000/-
				TOTAL-	Rs. 95,42,423.50
				Say-	Rs. 95.43 lakh.

ESTIMATE OF COST OF EXCAVATION OF TAILRACE CHANNEL

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation in all kinds of soil, within initial lead of 50m and initial lift of 1.5M as per drawing, specification and direction of Engineer I/c	12200	M ³	Rs.17.90	Rs.2,18,380/-
2.	Extra for lead of 25M or part thereof over initial lead of 30M as per specification (one extra lead).	12200	M ³	Rs.2/-	Rs.24,200/-
3.	Extra for each lift of 1.0M or part thereof over the initial lift of 1.5M per specification.	12200	M ³	Rs2/-	Rs.24,400/-
4.	Extra for wet soil	2000	M ³	Rs. 2/-	Rs.4,000/-
5.	Extra for consolidation of earth in 225mm layers with power roller including watering and ramming as per specification.	12200	M ³	Rs.2/-	Rs.24,400/-
6.	Fine dressing and turfing with 3" thick grass sods obtained within a lead of 60M.	2500	M ²	Rs.2.30	Rs.5,750/-
				TOTAL-	Rs.3,00,930/-
				Say Rs.-	3.01 lakhs.

**ESTIMATE OF COST OF LINING OF TAILRACE CHANNEL OF
SEBARI SMALL HYDROELECTRIC PROJECT**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed I well including wetting of required etc. all complete job as per direction of Engineer In-charge for laying PCC pre cast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page -96, Item -10.1.36).	6200	M ²	Rs.4.10	Rs.25,420/-
2.	Providing 0.6 x 0.45 x 0.056M pre cast PCC (1:3:6) slab in the side lope and bed of the canal with groove of the slab etc. set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In-charge. (Page- 103, Item- 10.2.19)	6670	M ²	Rs.125/-	Rs.8,33,750/-
3.	Providing intake walls with cement concrete (1:2:4) with approved quality of stone chips 20mm down to 6mm graded and quality sand including the cost of form work, making space bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labor and materials as per specification and direction of Engineer In-charge. (Page- 98, Item -10.2.3).	20	Nos.	Rs.396.40	Rs.7,928/-
4.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete. (Page - 101, Item -10.2.10.1).	700	M	Rs.18.60	Rs.13,020/-
5.	Supplying, fitting and fixing 150mm dia vertical non return valves complete with bolts, nuts plates etc all complete.	20	Nos.	Rs.2,500/-	Rs.50,000/-
6.	Supplying, fitting and fixing 150mm dia non return pocket valve complete with bolts, nuts etc. all complete.	40	Nos.	Rs.1,500/-	Rs.60,000/-

7.	Lip cutting for providing transverse filter and drain all complete job including the cost and laying of sand/stone chips filter of graded all complete jogas per direction of Engineer I/c.	1200	M ³	Rs.25/-	Rs.32,500/-
				TOTAL-	Rs.10,20,118/-
				Say-	Rs. 10.20 lakhs.

**ESTIMATE OF COST OF CONSTRUCTION OF D.L.R. BRIDGE AT 210 METRES OF
POWER CHANNEL OF SEBARI HYDROELECTRIC PROJECT.**

S.N.	Item of Work	Qty.	Unit	Rate	Amount
1.	Earth work in excavation of foundation trenches in all kind of soils with all leads & lifts as per drawing, specification and direction of Engineer I/c.	350	M ³	Rs.21.90	Rs.7,665/-
2.	P.C.C. (1:3:6) M-100 in foundation of piers with stone metal 1 ½” & down & Sone sand (washed & screened) including the cost of centering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In-charge.	35	M ³	Rs.2,184.90	Rs.76,471.50
3.	1 st class brick work in CM (1:4) with quality Sone sand w/s in foundation and super structure including cost of curing, as per drawing, specification and direction of Engineer In-charge.	230	M ³	Rs.1,427.80	Rs.3,28,394/-
4.	Earth work in filling in foundation trenches with previous soil including watering & remaining in layers as per specification and direction of Engineer In-charge complete.	200	M ³	Rs.16.95	Rs.3,390/-
5.	R.C.C.M-150 (1:2:4) with stone chips ¾” and down and Sone sand (washed and screened in bearing slab of piers including cost of shuttering, centering and curing etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer In-charge. (Page - 105, Item-10.3.4).	22	M ³	Rs.1,737.55	Rs.38,226.10
6.	Providing roller boring with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer I/c (for Class- A-A loading).	8	Sets	Rs.5,000/-	Rs.40,000/-
7.	R.C.C.(1:2:4) M-150 with stone chips ¾” and down and Sone sand (washed and screened) in deck slab, kerb and girder including the cost of storing, shuttering, centering and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer In-charge. (Page-63, Item-9.3.8).	35	M ³	Rs.1, 746.30	Rs.61, 120.50
8.	Providing expansion joint in deck	20	M	Rs.250/-	Rs.5, 000/-

	slab & weasing cost with angle iron and master fillet etc. including cost of supply, filling and mixing complete.				
9.	R.C.C. (1:2:4) M-150 with stone chips ¾" and down and Sone sand w/s in breast wall including cost of shuttering, centering and curing etc. complete but excluding cost of reinforcement.	8	M ³	Rs.1,737.55	Rs.13,900.40
10.	R.C.C. (a:1 ½ :3) M-200 with stone chips ¾" and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer I/c.	31	M ³	Rs.2,094.30	Rs.64,923.30
11.	Providing 4" dia G.I. drain water pipe in deck slab with perforated cap including cost of material and labour complete as per specification and direction of Engineer I/c.	16		Each Rs.80/-	Rs.1,280/-
12.	Providing R.C.C. (1:2:4) m-150 raining and railing post with stone chips ¾" and down and Sone sand including cost of shuttering, centering and curing complete best excluding cost of reinforcement as per specification and direction of Engineer In-charge.	45	M ³	Rs.1,737.55	Rs.78,189.75
13.	Providing deep ruled cement pointing in C.M. (1:3) with Sone sand (w/s) as per specification and direction of Engineer In-charge on brickwork exposed surface.	240	M ²	Rs.37.10	Rs.8,904.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, bending, placing in position and binding with 16 BWG wire complete as per drawing, specification and direction of Engineer In-charge.	15	MT	Rs.17309.30	Rs.2,59,638/-
15.	Providing wheel guard post of R.C.C. (1:2:4) with stone chips ¾" and down and Sone sand (w/s) 3'-6" long and 9" dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification and direction of Engineer I/c (vide Sone Western Link Canal Hydroelectric Project).	50	Nos.	Rs.45/-	Rs.2,250/-
16.	Dewatering, Diversion of Road and site clearance, etc.	L.S.			Rs.3,00,000/-
				TOTAL-	Rs.12,89,352.40
				Say-	Rs.12.90 lakhs.

DETAILS OF COST UNDER THE SUB -HEAD MISCELLANEOUS

S.No.	Particulars			Amount in Rs. Lakhs
1.	<u>Capital cost of</u>			
	i.	Electrification of colony	L.S.	Rs. 0.20
	ii.	Water supply over head tank	L.S.	Rs. 0.50
	iii.	Sewage and drains	L.S.	Rs. 0.20
2.	<u>Other Items</u>			
	i.	Technical record Photographic records	L.S.	Rs. 0.10
	ii.	Tree Plantation	L.S.	Rs. 0.10
			TOTAL	Rs.1.10 lakhs.

DETAILS OF COST UNDER THE SUB -HEAD COMMUNICATION

S.No.	Particulars	Qty.	Rate	Amount (in lakhs)
1.	Cost of improving the existing road upto Power House site (Widening & metalling)	1 Km	Rs.1.5lacs per km.	Rs.1.50 lakhs
2.	Construction of colony road	L.S.		Rs. 0.60 lakhs
3.	Telephone	L.S.		Rs. 4.50 lakhs.
			Total	Rs. 6.60 lakhs.

**DETAILS OF COST UNDER THE SUB -HEAD
E -SPECIAL TOOLS AND PLANTS**

One Number Jeep (Inspection Vehicle)	
@ Rs. 4lakhs each	Rs. 4.00 lakhs
Other special tools	Rs. 1.00 lakh
TOTAL	Rs. 5.00 lakhs.

**ESTIMATE FOR ELECTRICAL & MECHANICAL EQUIPMENT INCLUDING
EVACUATION SYSTEM**

A. ELECTRICAL & MECHANICAL EQUIPMENTS

S.N.	Particulars	Qty	Unit Price Ex-works (in lacs)	Total Price (in lacs)
1.	Vertical semi-Kaplan, Turbine with Syphon Intake	2	37.00	74.00
2.	Governing System	2	10.00	20.00
3.	Speed Increaser	2	13.00	26.00
4.	E.O. T. Crane-1 0 T capacity	1	5.00	5.00
5.	Generator	2	21.00	42.00
6.	Power Transformer	1	6.00	6.00
7.	Battery with charging System	1 set	3.00	3.00
8.	Switchboard Panels for Turbine Generator, Auxiliary, etc.	L.S.	22.00	22.00
9.	Switch –Yard	L.S.	10.00	10.00
10.	Cabling/Earthing Lighting/ Ventilation/ Fire fighting	L.S.	15.00	15.00
11.	30 KVA diesel Generator with Control Panel and emergency Supply System	L.S.	2.00	2.00
12.	Tools & Plants	L.S.	1.00	1.00
13.	Spares for two years O & M	L.S.	8.00	8.00
			Total-	234.00
14.	Excise duty 12%			28.08
			Total-	262.08
15.	C.S.T. 4% Central Sales tax			10.48
16.	Transport and transit insurance & insurance during erection	L.S.		03.00
17.	Miscellaneous overhead charges	L.S.		03.00
18.	Cost of erection, testing and commissioning of equipment covered from SI. No. 1 to 11 above.	L.S.		24.00
			Grand Total-	302.56
			Say-	303.00 lakhs
B.	<u>COST OF POWER EVACUATION</u>			
1.	Cost of Transmission Line 11KV on Weasel conductor SKM in length	L.S.		20.00
C.	<u>TRIAL & COMMISSIONING ACTIVITIES</u>			
1.	Cost of lubricant and other consumables	L.S.		1.00

14. FINANCIAL FORECAST**14.1 ESTIMATED COST OF GENERATION**

S. N.	Particulars		Cost
1.	Installed Capacity	1000 KW (2x500KW)	
2.	Cost of the Project		Rs.5,68,20,000/-
3.	Cost / KW (2/1)		Rs.0,00,56,820/-
4.	Interest on capital during construction		Rs.0,56,82,000/-
5.	Total sum at large (2+4)		Rs.6,25,02,000/-
6.	Cost / KW including interest during construction (5/1)		Rs.0,00,62,502/-
7.	Annual generation	79,97,000 Kwh	
8.	Auxiliary consumption @ 0.5%	37,485 Kwh	
9.	Units sent out/ year (7- 8)	74,59,515 Kwh	
10.	Fixed charges (a + b + c)		Rs.0,77,74,200/-
	a. Interest charges @ 10% of 5	Rs.52,50,200/-	
	b. O & M charges 1.0% of 2	Rs.05,68,200/-	
	c. Depreciation @ 2.0% of 2	Rs.11,36,400/-	
11.	Total fixed and running charges per annum (10)		Rs.0,82,24,800/-
12.	Cost/Kwh narrated 11/7		Rs. 1.09
13.	Return on capital @ 16% and general reserve @ 0.5% i.e. 16.5% of project cost (0.165x2)		Rs.0,93,75,300/-
14.	Profit/Unit sent out (13/9)		Rs.1.25
15.	Price/ Kwh generated for sending out (12 + 14)		Rs. 2.35
Note:	Interest during construction is calculated assuming total duration of the project as 24 months and an interest rate of 10% as per formula:		
	$I = \frac{PNR}{2 \times 12 \times 100}$		
Where,			
P =	Project cost;		
N =	Total duration of the project in months;		
R =	Interest rate in %		

14.2 PAY BACK PERIOD

1.	INVESTMENT	Rs.lakhs.
	1.1 Project capital cost	Rs.5, 68,20,000/-
	1.2 Interest during construction	Rs.0, 56,82,000/-
	1.3 Total Investment	Rs.6, 25,02,000/-
2.	<u>REVENUE DURING OPERATION</u>	
	<u>2.1 Annual Revenue Generated</u>	
	a, Units sent out/year KWh (Refer item 9 of calculation sheet of units)	74,59,515 Kwh
	b. Selling price of power Paise / Kwh (Refer item 15 of calculation sheet of units generated)	235
	c. Total revenue generated: axb/100	Rs. 1, 75,29,860/-
2,2	<u>Annual Generation Costs Incurred</u>	
	Annual fixed charges excluding depreciation and interest charges (Refer item 10(b) of calculation of cost of generation)	Rs. 0,05,68,200/-
2.3	Net Annual revenue generation (2.1 -2.2)	Rs. 1,69,61,660/-
3.0	Pay back period (1.3/2.3)	3.68 years.

14.3 BENEFIT COST RATIO

A.	<u>Annual Expenses</u>	
1	0& M	Rs.5.68.200/-
2.	Depreciation charges @ 2%	Rs.11 ,36,400/-
3.	Interest charges	Rs. 62,50,200/-
4.	Total annual expenses	Rs. 82,24,800/-
B.	<u>Annual Revenue</u>	Rs.1,68,14,495/-
C.	Benefit cost ratio (B/A) =	2.13

14.4 FINANCIAL STATEMENT
CAPITAL EXPENDITURE DURING FIRST YEAR -284.00 LAKHS
CAPITAL EXPENDITURE DURING SECOND YEAR- 300.00 LAKHS

Year	Capital outlay (Rs.lakhs)	Expenditure during the year in Rs. in lakhs	Simple interest on Col. 2 @ 10% on Col.3 @ 5% Rs. in lakhs.	Depreciation @2% on Col. 2 in Rs Lakhs.	O&M expenses @ 1% on Col. 2 Rs. Lakhs.	Total working expenses in lakhs (5+6)	Unit generated in lakhs KWH	Unit Sent out in lakh KWH	Anticipated revenue @ 253 P/KWH in lakhs	Net Revenue (10-7)	Surplus or deficit (-) after meeting (11-4)	Accumulated surplus (+) or deficit (-) in lakhs (Col. 12+pervious year of Col. 13.)	Sum at large at the end of the year Col. 2+3-13	% Return 12/14 x 100
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
1	---	218.20	10.91	---	---	---	---	---	---	---	-10.91	-10.91	229.11	-4.76
2	218.20	350.00	39.32	11.36	2.18	6.54	---	---	---	-6.54	-45.46	-56.77	624.97	-7.27
3	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	44.66	523.54	19.37
4	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	146.09	422.11	24.02
5	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	247.52	320.68	31.62
6	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	348.95	219.25	46.26
7	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	450.38	117.82	86.08
8	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	551.81	16.39	618.85
9	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	653.25	-85.04	---
10	268.20	---	56.82	11.36	5.68	17.04	74.97	74.59	175.29	158.25	101.43	754.67	-	---

N.B.: - The following rates of depreciation are generally applicable for Hydel Project of the capacity.

		Rate
1.	Diversion demand Tailrace channel-	1.95%
2.	Power House building	3.40%
3.	Approach road-	1.95%
4.	Turbines, Generators and other E& M works-	3.40%
5.	Transformers, etc.	5.06%
6.	Controls, Cables, etc.-	5.06%
7.	Five fighting equipment-	8.24%
8.	Batteries with Charger	21.55%

The average cost of depreciation on the total cost of the estimate generally comes to about 2% of the total cost. Therefore, for convenience of calculation an average of 2% depreciation has been taken for calculating the financial statement.

15. ENVIRONMENT AND ECOLOGICAL ASPECT

QUESTIONNAIRE ISSUED BY THE DEPARTMENT OF ENVIRONMENT FOR RIVER VALLEY PROJECTS

0.1	<u>Detailed basic information affecting the environment</u>	
1.01	Predominant existing land use: pattern (agricultural land reserve and the forests etc.) in project area upto 10 km. upstream.	Comprises mostly agricultural land owned by W.R. Deptt. of Govt. of Bihar.
1.02	Break up of submerged area total sub-merged area (1% hectares)	The project does not envisage any reservoir and hence question of submergence does not arise. A bypass channel will be constructed paralleled to Ara canal of Sone canal system.
	Forest land Cultivated land Shrubs & fallow Rocky outcrop Wet land Open water Other use.	Nil
1.03	a. Forest type in catchment and sub merged areas.	Nil
	b. Extent and nature of forest to be cut for construction of roads, colony and other appurtenant works.	Nil
1.04	Duration of projects construction	24 months
1.05	Estimated peak labour strength	Skilled - 10
		Unskilled - 50
		Labour from local villages to be recruited.
1.06	Population density in the area per sq. km.	None
1.07	Number of villages and population to be displaced	
	No. of villages	
	Size of village	
	Affected families in each village	Does not arise
	ST SC Other	
	Occupation of the affected people	
	Agriculture	
	Industrial labour	Does Not arise
	Forest based	
	Owner cultivators by size of land holdings:	
	Marginal (1.0 hect.)	
	Small (1.0E 2.5 hect.)	Does not arise
	Medium (2.5 E 5.0 hect.)	
	Large (Over 5.0 hect.)	
1.08	Resettlement	As these will be no displacement no resettlement is needed.
	Is a rehabilitation committee being constituted?	
	Existing guidelines, if any for compensation.	Does not arise
	Level of compensation in cash and kind.	Does not arise
	Number of out families likely to be settled in new settlement	-Do-
	Size of proposed new settlement.	-Do-

	Layout plans/master plans for new settlement	-Do-
	Distance of new settlement form the present habitant	-Do-
1.09	Number and type of facilities (e.g. School, Post Office, Bank, Panchayat Ghar, Police Station, approach road, Drainage and Water supply etc.) proposed to be provided.	Only approach road up to site will be improved. Other facilities as available locally will be utilised.
1.10	Is the affected area covered by development programmes like IED, SED, draught prone area tribal development etc.	No
1.11	Any proposal to provide or create employment for outees nature and quantum of employment to be provided	Does not arise as there will be no oustees.
1.12	What is the expected rate of siltation ?	Not applicable
	Is down stream area subject to flooding ?	No
1.13	Wind at dam site (diagram giving statistical information concerning the direction and speed of the wind at the site).	Not applicable
1.14	Hurricane, tornadoes, cyclones, Frequency of occurrence Wind velocity (Average)	Not applicable
1.15	Plan of area on the reservoir periphery subject to erosion, slides and slips.	Not applicable
1.16	The depth of ground water	
	Table- Maximum	15 M
	Minimum	5 M
	Quality of ground water portable/ non-portable/ fit for irrigation industry.	Portable
1.17	Present ground water use pattern in the command area under irrigation	The command area is surface irrigated by canal
1.18	Based on the experience of similar project in the area, specify the interaction between the altered surface water patterns and underground aquifers and their recharge.	Not applicable
2.00	Environmental status	
	a. Indicate known pollution sources in the region (indicate the industrial like chemicals, textiles and other thermal power unit, mining operations, etc.)	Not such industry near Project site.
2.01	Indicate the industrial and other development project likely to be taken up in the area during the next five to ten years:	No such plan
2.02	a. Does the area support economically viable aquatic life, fish and crocodiles?	Not applicable
	b. Are there any fish/ crocodile breeding ground in the river tributaries in the submergence?	No
2.03	Does the site contain a wild life (including birds) habitat, breeding area, feeding area, migration route including the number of wild life available in the area	No.
2.04	Is the site a potentable wild life sanctuary?	No
2.05	Specify and rare or endangered species of flora and fauna found in the effected area alongwith their approximate number and measures to salvage/ rehabilitate them:	No
2.06	Is the area of tourist resort?	No

2.07	Are any monuments/ site of cultural, historical religious archaeological or recreational importance including wild life sanctuaries, national parks etc. likely to be affected by the proposed project? If so details thereof	No
2.08	Does the proposed area suffer from endemic health problems due to water/soil borne disease.	No
3.00	<u>ENVIRONMENTAL IMPACTS</u>	
3.01	What measures are planned to develop the site to enhance its aesthetic aspects (i.e.: recreation and water sport facilities and picnic sites, etc.)	Some plantation near the power station will be done.
3.02	Will the project help in flood control, reduction or even eradication of flood havoc down stream ?	Not Applicable
3.03	Are any changes in water salinity expected? If yes, give details of proposed measures to counter act this.	No
3.04	Are problems of water logging envisaged in the command area? If so, give details of proposed steps to combat the problem:	No
3.05	Will the reservoir be used for fisheries development, fish culture as well as fish breeding, crocodile farming etc.? If yes, give details there of	There is no reservoir envisaged
3.06	Will fish ladders/life and like arrangements be provided to allow movement of important migratory fish population?	Not applicable
3.07	Measures proposed to prevent grazing the cultivation on reservoir slopes to avoid erosion and premature silting up the impoundment	Not applicable
3.08	Will any important natural resources (minerals, coal, timber, etc.) be lost or their use precluded because of the presence or operation of the project? If yes, specify the resources estimated loss:	No
3.09	What is potential loss in aquatic production on site up and down stream and other useful animals and plants?	Nil
3.10	Will the formation and use of the water body result in the introduction or enhancement of water borne diseases?	Not applicable
3.11	Will the impounded reservoir lead to:-	
	i. Noxious aquatic weeds like snails, water, Hyacinth etc.	No
	ii. Intermittent host (Vector) like snails, mosquitoes etc.	No
3.12	How will aquatic weeds be controlled in submerged area as to provide an improved habit as for fishery exploitations	Not applicable.
3.13	How will project induce adverse climatologically changes (regarding temperature, humidity, wind and precipitation including modifications to macro and micro climate)?	No
3.14	What impact is expected a geological factors (e.g. seismic impact or reservoir loading)?	No impact.

3.15	Indicate the magnitude of impact due to population pressure on:-	
	i. Felling of trees for firewood	Nil
	ii. Forest fires.	Nil
	iii. Over grazing leading to depletion of the pastures	Nil
	iv. Visual pollution and damage to scenario values	Nil
3.16	What arrangements are being made	
	(i) To meet fuel requirements of the labour force during construction period to prevent indiscriminate felling of trees for firewood?	Local labour will be used for construction proposes
	ii. For compensatory a forestation?	Not applicable
	iii. To enforce anticipating laws	Not applicable
	iv. To control flow of sediments and pollutants due to fertilizer and pesticide run-off for cultivated area	No applicable.
	v. For restoration of land in construction areas (filling, grading, and reforestation etc.) to prevent erosion.	This situation will normally arise
	vi. For soil conservation in the catchment?	Not applicable
4.00	Cost of Environmental studies and project Management.	
4.01	Provision for environmental studies/ surveys needs for this project	Not applicable
4.02	Cost of proposed remedial and mitigative measures environment	Not applicable
4.03	Has the cost of environmental studies/ protection measures been considered in the cost benefit analysis of the project.	Not applicable.

SALIENT FEATURES

1.	LOCATION			
	i. State ii. District iii. Tuluka (Block) iv. Access-Road		Bihar Rohtas Nokha From SHP Site to Sasaram-Bikramganj Road- 6 KM From Sasaram (G.T. Road)-20 KM From Varanasi Airport-84 KM	
	Rail (B.G.)		Sasaram on Grand chord Railway Line Eastern Railway-20 KM	
	v. Geographical Co-ordinates Latitude Longitude		25 ⁰ -3'-30" North 84 ⁰ -5'-40" East	
2.	CANAL FALL/LOW HEAD			
	i. Project ii. Canal System iii. Fall site		SHIRKHINDA SMALL HYDEL PROJECT Buxar Branch Canal of Sone Branch Canal. Shirkhinda at 9.6 KM of Buxar Branch Canal.	
3.	<u>HYDROLOGY</u> <u>Canal Falls/Low Head Schemes</u> i. Design Discharge ii. Water availability		23.2 Cumecs	
	Percentage	Discharge	Head	Power in KW
	25%	25.50 cumecs	3.50M	770.10
	50%	18.17 cumecs	3.50M	548.73
	75%	14.03 cumecs	3.50M	425.22
4.	LOW HEAD/CANAL SCHEME :			
	a. Shape b. Size c. Capacity of Canal (cumecs) d. Full supply level (El. m)		Trapezoidal Section Bed Width-7.81 Full supply Depth-1.88M 23.30 cumecs 96.008M above M.S.L.	

	e. Lining details (m) f. Fall structure (m) g. Height of fall (m) h. By-pass arrangements i. Bridges, if any j. Annual closure Period of canal (days)	Plain Cement concrete slab Existing - 26M length 3.50M By Pass Canal Existing S.L.R. Bridge 120 days in a year for maintenance of canal.
5.	POWER HOUSE	
	i. Type ii. Head (m) - Maximum - Minimum - Average - Design	Semi Kaplan Syphon Type 3.82M 3.50M 3.50M 3.50 Metre
	iii. Size of Power House a. Length (m) b. Width (m) c. Height (m) d. Machine Hall floor level	- 16M 12 M 8 M (El.) 97.10M above M.S.L.
	iv. Installed Capacity (KW)	2 x 350 KW
	v. Turbine(s)-Type - Number - Capacity (KW/HP)	Semi Kaplan Siphon intake Vertical Turbine 2 (Two) Nos. Each of 350 KW capacity.
	vi. Type of generator a. Excitation system b. Regulation system	Synchronous vertical generator Brushless Electronic Governor
	vii. Power House crane/ lifting tackle capacity	10 Ton Semi EOT
6.	TAILRACE	
	i. Shape ii. Size iii. Length (m) iv. Water level (El. m) v. D.L.R. Bridge vi. S.L.R. Bridge	Trapezoidal Bed width=7.81M Full supply Depth - 1.88M 180M. Full Supply level-92.50M above MSL. One No. One No.
7.	POWER	
	i. Installed capacity ii. Firm power (KW)	2 x 350 KW (700 KW)

	- Load factor in percent iii. Annual energy (KWH) iv. Power evacuation	2 x 350 KW, Plant Load factor - 50% 53,53,000 KWh Through Single Circuit-11KV Line from SHP to Sasaram 33/11KV Grid sub-station of BSEB.
8.	SWITCHYARD	
	i. Voltage level Basic insulation level ii. No. of bays iii. Size: a. Length b. Width iv. No. of transformer of 0.415/11KV v. Capacity of Transformer	0.4/11 KV One 8 M 5 M One No. 875 KVA
9.	ESTIMATES OF COSTS	
	i. Total costs ii. Cost per KW installed iii. Cost of generation per KWh iv. Benefit cost ratio v. Cost of sale of energy per KWh. allowing 16% profit on capital +0.5% reserve. vi. Pay Back Period	Rs. 4,87,00,000.00 Rs. 69,571.42 Rs. 1.19 2.24 Rs. 2.69 3.55 Years.

CHAPTER-I INTRODUCTION

- 1.1 The Sone Canal System emanating from Indrapuri Barrage on the river Sone plays a key role in ushering tremendous irrigation potentiality to the vast track of land of Bihar. The track covered in this system pertains to the districts of Patna, Aurangabad, Bhojpur, Rohtas, Buxar, and Jehanabad. This Canal has a good number of falls provided for systematic irrigation of the area. These falls located for best utilisation of water for irrigations purposes, can be harnessed for power generation.

Exhibit one (1) shows the Schematic Diagram of the Sone Canal system.

The Main Canals, Western Link Canal on left side and Eastern Link Canal on the right of Sone River, flows in the region. After traversing a distance of 10.5 km of the Western Link Canal, Main Western Canal starts. Buxar Branch Canal originates from 19.623 km of the Main Western Canal. The Shirkhinda fall lies at 9.60 km of Buxar Branch Canal.

1.2 **LOCATION**

- 1.2.1 The project is located in the plains of South Bihar. The geographical co-ordinates of the proposed site are as under:

Latitude	-	250 - 3' - 40" North
Longitude	-	840 - 5' - 40" East

- 1.2.2 The proposed S.H.P. site is located near village - Shirkhinda in Nokha Block of Rohtas district. This site falls at 9.6 km in Buxar Branch Canal. The State Highway (Patna-Ara-Sasaram) is 6 km from the site. The National Highway No.2 (Grand Trunk Road) at Sasaram is 20 km away from the site. Sasaram is the nearest Railway Station located on Grand chord line of Eastern Railway. Nearest Airport is Varanasi at a distance of 84 km from the site. This site is thus approachable by pucca road and rail facility is available.

This site is also connected by service road of the Buxar Branch Canal. This is good enough for movement of light vehicles and for transport of plant and equipment. It is also envisaged to connect the power house with the service road of the canal.

Details of main towns connected with this site is as follows :-

i.	Sasaram	20 km	Grand Trunk Road (N.H. No.2) and Railway Station of Eastern Railway and District Head Quarters.
ii.	Varanasi	84 km	Airport
iii.	Patna	150 km	Capital town and also Airport, Railway Station of main line, Eastern Railway.
iv.	Dehri-on-Sone	35 km	Barrage site of River - Sone and also Railway Station of Grand Chord line of Eastern Railway.

1.3 **PHYSIOGRAPHY AND TOPOGRAPHICAL ASPECTS**

Shirkhinda S.H.P. is located by the side of Shirkhinda village in the Buxar Branch Canal. The land in the vicinity is cultivable. The area bears no undulation and is good for cultivation.

The average elevation of the project site is 95.36M above M.S.L. A topographical survey of the area has been carried out and the same is placed in exhibit 2.

The nature of the soil is good for crops as well as manufacturing Class-A bricks. The bearing pressure of the soil at the site is estimated to be 10 M.T. per M2 at the depth of 2.5 metre below natural soil level. This has however, to be measured before undertaking detail design and engineering.

1.4 **GEOLOGY**

The project area falls in the Sone-Ganges basin, which consists of thick alluvial soil, the thickness of which varies from 2 to 3.5M. The Sone river flows on South side whereas Ganges river passes from the north side of the site near Buxar. Details have been indicated in Chapter 'Geology' separately.

1.5 **HYDROLOGY**

The discharge data has been collected from Water Resources Deptt., Government of Bihar, Patna. Discharge Data pertains to the period of ten years ranging from 1986 to 1995.

At the fall site discharge measurement is done by the Water Resources Department and the same has been adopted for computation of power potential. This indicates that this quantum of water will be available and can be utilised for power generation.

Based on the requirement of water for various types of crops, the discharge water fluctuates in the canal. The canal remain closed in the month of March, April, May and mid-June. During the winter season water discharge of the canal is less as it irrigates the Raid crops, which in general, require less water. In brief, water in the canal remains available for 66% to 70% of the period in a year.

Availability of water and percentage dependability for power generation details have been indicated in Hydrology Chapter.

1.6 **METEOROLOGICAL CONDITIONS**

The area falls in central Bihar, where in general, tropical climate prevails. The maximum and minimum atmospheric temperature recorded in summer and winter seasons is 45⁰C and 4⁰C, respectively. The maximum mean annual temperature is 37⁰C and minimum mean annual temperature is 14.7⁰C. The relative humidity of area varies from 86% (maximum) to 31% (minimum). The average humidity is 64%.

The annual average rainfall is 1141mm where maximum annual rainfall and minimum annual rainfall is 1718mm and 567mm, respectively. Heaviest rainfall is 24 hours is 254.5mm. The precipitation starts from mid-June and ends in mid-October. Thus barring four months being the rainy season, the remaining eight months may be treated as the working season though a little shower during December/ January occurs occasionally.

1.7 **SOCIO-ECONOMIC ASPECTS**

The project site is in Central Bihar of Sone-Ganga Basin where area is thickly populated. The inhabitants are predominantly agriculturists, who mostly thrive on agricultural products. With the spiral hike in population the incidence of yield per acre per capita has been reduced tremendously. Their modus-operandi is to utilise fossil fuel-like petrol, diesel and K. Oil required for running their agricultural appliances. There are no industries in the area owing to non-availability of power. Thus, they drift towards unwarranted activities

and immigration of people are becoming more prominent specially among the poor and landless.

Provision of power facilities to the area now contemplated under this S.H.P. will lead them towards betterment and ameliorate their difficult living conditions. This area is in acute need of power so as to create the industrial environment in the area and also prevent them from resorting to unwanted means of livelihood to which they are now accustomed. These efforts can succeed only if power potential is harnessed without disturbing the existing irrigation facility. Various types of industry would grow as per availability of power. With the industrial growth people will elevate their living condition thus putting a check on unwanted tendencies as well as immigration.

1.8

COMMUNICATION

Shirkhinda S.H.P. is approachable by metalled road as well as railway facility is also available. All these have been elucidated in para 1.2. Sasaram at a distance of 20 Km has got the telecommunication facility where telephone office with full-fledged arrangement of telecommunication activity is available since more than decades.

CHAPTER - 2

GEOLOGY

- 2.1 The project site lies in Central Bihar having surrounded by two major river Sone & Ganges. The deposit of thick alluvium soil inundates this region and this indicates that the area belongs to the last phase of depositional period of the earth. On southern side near Sasaram hillocks are found with hard granite stones, though it is far away at the distance of 18 km. but at the project site hills, shrubs and jungle have not been encountered. In general, the area is plain in nature.
- 2.2 Geologically the entire track has achieved the established soil pattern due to perennial irrigation system since century and a half. In general, soil is 'Dhumus' and at some places black cotton soil, silt, and various grades of sand, are available. The thickness of these alluvial soil varies from 2 M to 3.5 M.
- 2.3 Ground water table is found at 18.30 M depth, but this depth varies. In summer it is more than 18.5 M, in winter 12 M and during monsoon period the water table remains at 7 M below the natural ground level. The power channel and the tailrace channel will remain above the sub-soil water level. Suitable drainage arrangement shall be made to over come the water logging. Bearing pressure at the project site is considered as 10 MT per M² at 2.5 metre depth. This, however, will have to be checked before undertaking detail design and engineering.
- 2.4 Barring about four months, complete year is treated as working season. Monsoon period covers from mid-June to mid-October in a year with a few showers of rain during winter. The average annual rainfall in this area is 1141.8 mm.
- 2.5 The project area lies in zone-II of seismic zone as per Indian seismic zone classification.

CHAPTER - 3

HYDROLOGY

- 3.1 Hydrological study has been envisaged in order to assess the availability of water in the canal and subsequently the power potential to be harnessed. It has been ascertained that this canal is in operation for about one and a half century. Thus the hydrology of the canal is well established. The canal runs for 66% to 70% of the period in a year.

For about four months, the canal remains closed for maintenance work. Flood occurrence in the vicinity has not occurred since no major river or rivulets are flowing nearby. This site is located on the D/S of Inderpuri Barrage on river Sone at Dehri-on-Sone, which is at a distance of 35 Kms. As such, design flood peak for sizing the system is not required.

- 3.2 All discharge and other relevant data have been obtained from Water Resources Department, Government of Bihar (Irrigation Department). From Barrage site Western Link Canal on left side of river Sone originates in a length of 10.5 Km. from where main western canal commences and goes upto 39.2 Km in length. Buxar Branch Canal takes off at 19.628 Km of main western canal. In the down stream at the distance of 9.6 Km in Buxar Branch Canal the proposed Shirkhinda S.H.P. has been planned.

- 3.3 Due consideration of the data obtained from the Irrigation Department has been given while evaluating the discharge data and power capacity of the proposed scheme. The nearest rainfall observatory is located at Dehri-on-Sone, and for all purposes of design the same has been considered. The maximum and minimum annual rainfall in the region is 1718.6mm and 567 mm respectively. Average annual rainfall is 1148.18mm.

- 3.4 As estimated, 70% of the annual precipitation occurs during monsoon. The actual observed discharge data has been collected from the Irrigation Department. Based on this data the 10 days daily average discharge for each of the 10 years is computed in Table-'A'. Based on this monthly 10 days daily annual average data was calculated and is given in Table-'B'. The percentage dependability and assessment of power potential has been calculated based on these data.

- 3.5 Water in the canal is released from Inderpuri Barrage on river Sone. Presently there is no consumptive use of water on the U/S of the barrage. Nabinagar

Thermal Power Station (2x500MW) on right of river Sone U/S of the barrage has been contemplated. Nabinagar Thermal Power Station is located at 25 Km U/S of the barrage. In between this and the off take point of Sone Canal System, there is no industry and no tributary to the Sone river.

- 3.6 In general, quality of water is good and also suitable for construction purposes. During monsoon period the river carries sand of fine to coarse quality. Test Report of Sone river water conducted for Nabinagar Thermal Power Station is hereby indicated in Table - 'C'.

Table - 'A'

SIRKHINDA SMALL HYDEL POWER STATION
10 (TEN) DAYS AVERAGE DISCHARGE DATA IN CUMECS

MONTHS		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JANUARY	I	21.92	23.45	20.95	19.90	23.38	23.38	73.11	5.62	9.16	C.C.
	II	22.43	22.12	23.77	19.03	10.49	18.49	32.14	18.12	16.90	C.C.
	III	26.90	C.C.	18.77	14.31	15.98	15.98	26.83	19.77	C.C.	C.C.
FEBRUARY	I	23.84	C.C.	20.48	14.29	20.42	24.94	14.01	14.29	18.90	C.C.
	II	13.31	21.10	16.51	5.42	15.56	18.99	20.55	5.21	14.58	C.C.
	III	11.33	25.45	20.67	7.72	8.50	23.79	25.92	7.42	16.35	C.C.
MARCH	I	12.53	14.47	17.66	23.44	C.C.	5.67	20.69	16.50	26.17	C.C.
	II	20.30	20.33	17.64	28.79	C.C.	5.67	5.10	16.70	22.82	C.C.
	III	5.92	13.31	C.C.	C.C.	C.C.	6.46	2.20	7.82	C.C.	C.C.
APRIL	I	11.33	C.C.	C.C.	16.82	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	II	7.36	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	III	6.37	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
MAY	I	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	II	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
	III	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.	C.C.
JUNE	I	C.C.	C.C.	C.C.	C.C.	10.49	9.07	12.87	12.68	12.79	C.C.
	II	21.24	C.C.	14.87	C.C.	13.02	3.14	15.85	15.54	15.35	C.C.
	III	23.65	8.13	16.14	17.30	C.C.	21.52	17.53	17.82	16.70	C.C.

JULY	I	13.28	3.78	21.52	22.04	14.77	25.79	21.40	25.40	17.66	20.61
	II	18.80	26.20	23.71	22.21	6.89	19.25	24.18	30.40	28.01	26.50
	III	35.20	21.07	29.67	23.93	5.33	26.15	27.19	28.41	31.03	31.20
AUGUST	I	31.01	29.45	24.15	23.77	6.80	27.91	27.76	26.25	15.24	30.75
	II	32.71	31.69	24.55	24.54	18.49	31.39	28.71	27.15	26.93	17.27
	III	32.88	34.00	25.57	25.54	28.63	31.31	31.25	25.28	21.90	21.42
SEPTEMBER	I	33.28	31.41	26.17	24.62	30.81	12.31	30.40	24.12	32.77	16.67
	II	36.40	20.69	31.35	25.22	31.60	19.84	34.44	15.87	24.09	15.49
	III	36.54	23.35	28.18	28.45	32.50	30.54	33.06	21.24	10.20	12.73
OCTOBER	I	36.11	25.88	26.64	25.37	32.60	35.87	29.28	24.40	27.64	22.43
	II	33.28	32.71	14.81	25.68	28.20	36.56	23.00	23.10	26.31	31.99
	III	26.62	27.90	18.06	26.10	31.75	37.96	20.50	28.34	28.17	30.45
NOVEMBER	I	30.82	23.12	22.56	19.91	32.03	36.09	13.78	11.89	26.40	26.71
	II	4.20	15.00	21.75	C.C.	20.12	20.28	15.20	9.25	22.67	C.C.
	III	3.50	6.11	22.31	C.C.	8.50	14.93	11.90	C.C.	22.68	C.C.
DECEMBER	I	6.90	12.34	20.25	8.74	21.54	19.42	C.C.	14.79	C.C.	C.C.
	II	4.03	15.70	10.69	18.21	15.88	15.30	11.22	54.66	C.C.	C.C.
	III	25.96	7.39	14.24	15.42	17.01	4.88	5.59	32.87	C.C.	C.C.

(C.C. = Canal Closed)

SHIRKHINDA SMALL HYDEL POWER STATION
10 (TEN) DAYS ANNUAL DISCHARGE DATA (IN CUMECS)

TABLE - B

MONTH		DISCHARGE
January	I	17.50
	II	18.17
	III	19.77
February	I	18.90
	II	14.57
	III	16.35
March	I	17.08
	II	17.17
	III	7.14
April	I	14.08
	II	7.36
	III	6.37
May	I	0.0
	II	0.0
	III	0.0
June	I	12.78
	II	15.58
	III	17.35
July	I	18.61
	II	22.56
	III	26.20
August	I	24.14
	II	26.34
	III	27.71
September	I	26.46
	II	25.50
	III	23.34
October	I	28.55
	II	27.55
	III	27.60
November	I	24.30
	II	28.10
	III	12.83
December	I	8.73
	II	18.21
	III	15.42

TABLE - 'C'
SONE RIVER WATER ANALYSIS

Sl. No.	Item	Units	Value
1.	Turbidity NTU	ppm	about 30
2.	Ph	No.	8.3
3.	p- alkalinity	ppm	NIL
4.	Toal alkalinity	ppm	130
5.	Total hardness	ppm	130
6.	Calcium hardness	ppm	80
7.	Temporary hardness	ppm	130
8.	Permanent hardness	ppm	Nil
9.	Total dissolved solids	ppm	205
10.	Total suspended solids	ppm	15
11.	Chloride as Cl	ppm	6.5
12.	Sulphates as SO ₄	ppm	30
13.	Silica as SiO ₂	ppm	18
14.	Calcium as Ca	ppm	34.4
15.	Magnesium as Mg	ppm	12.1
16.	Sodium as Na	ppm	21.2
17.	Potassium as K	ppm	3.1
18.	Conductivity	Micro/Mho/ cm	380
19.	Bicarbonates	ppm	130

3.7 Water analysis can be considered for the design of turbine and other equipment taking into consideration silt/sand load carried into the stream during the period of monsoon.

3.8 For realistic formulation of the scheme, actual observed discharge obtained from the Water Resources Deptt., Government of Bihar has been taken into account. It may be mentioned here that the actual discharge flowing in the canal is less than the designed discharge of the canal.

CHAPTER - 4

DESIGN ASPECTS

4.1 COMPUTATION OF VARIOUS ALTERNATIVE/ INSTALLED CAPACITY.

4.1.1 Data Available

4.1.1.1 The Water and power potential study has been envisaged based on the data as under :-

- a. Dependable flow.
- b. Net head available.

4.1.2.1 The 10 days monthly discharge data for year 1986 to 1995 is available and based on this, the percentage dependability with respect to discharge has been computed and is given in Table - 'D'.

As evident from the hydrological data of the canal, canal remains closed for four months in a year which has been considered in evaluating the flow discharge pattern.

4.1.2.2 From Table 'D' it appears that at 27.77% to 58.33%, the discharge varies from 24.30 cumecs to 17.17 cumecs. The corresponding power potential ranges from 733.86 KW to 518.53 KW and could be seen from Table - 'E'. This aspect has been considered in formulating the capacity of the unit so that reliability of utility of unit is maintained with optimum efficiency. Further elucidation has been indicated in Para 4.4 (INSTALLED CAPACITY).

4.2 Head Available

4.2.1 At Shirkhinda fall site, net head of 3.50 metre is available, which is adequate to be considered for power generation.

SHIRKHINDA SMALL HYDEL POWER STATION
AVERAGE DEPENDABLE DISCHARGE

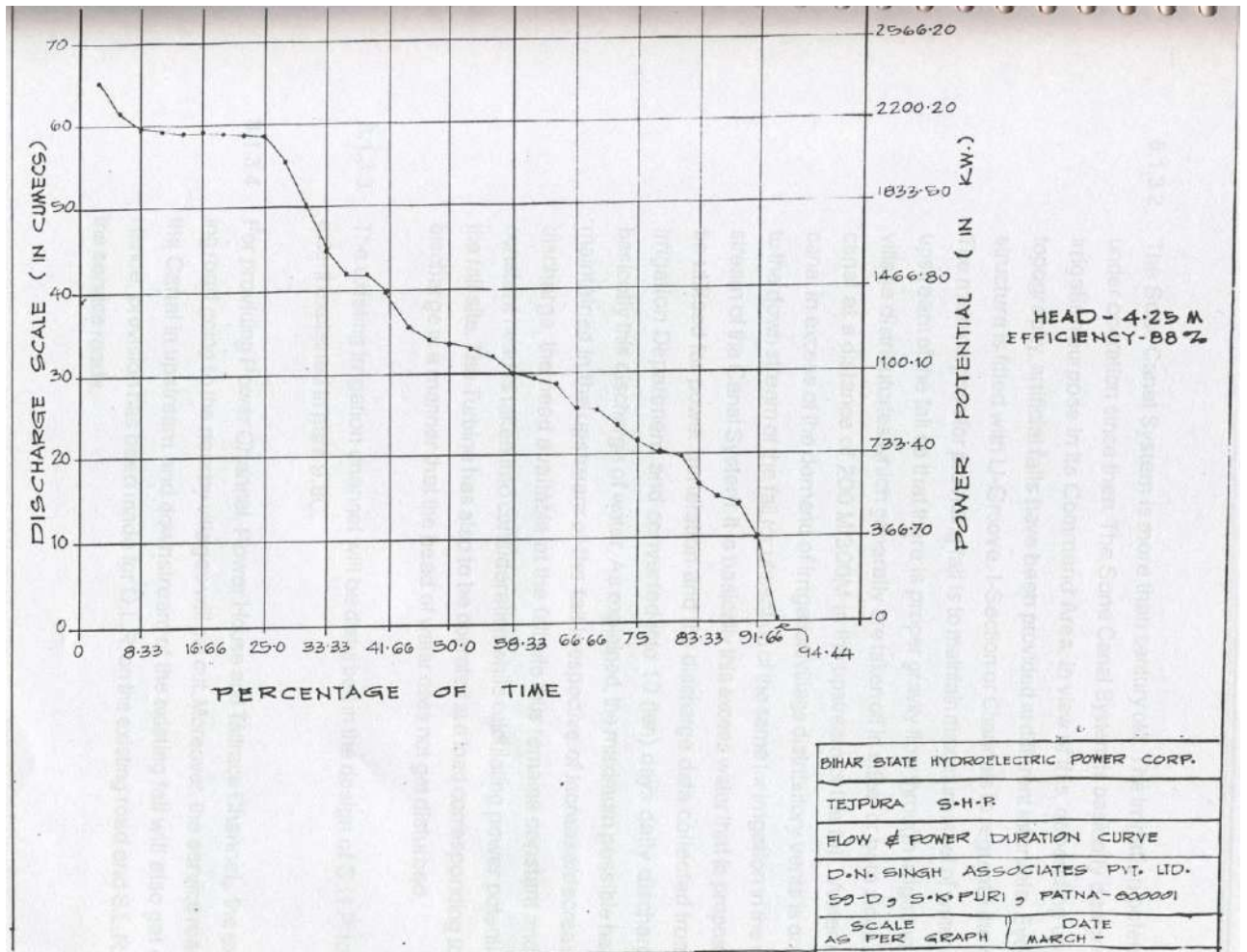
TABLE - 'D'

PERCENTAGE DEPENDABILITY	MEAN DISCHARGE IN CUMECS
02.77	28.55
05.55	28.10
08.33	27.71
11.11	27.60
13.88	27.56
16.66	26.46
19.44	26.34
22.22	26.20
27.77	24.30
30.55	24.14
33.33	23.34
36.11	22.56
38.88	19.77
41.66	18.90
44.44	18.61
47.22	18.21
50.00	18.17
52.77	17.50
55.55	17.35
58.33	17.17
61.11	17.08
63.88	16.35
66.66	15.58
69.44	15.42
72.22	14.57
75.00	14.08
77.77	12.83
80.55	12.78
83.33	8.73
86.11	7.36
88.88	7.14
91.66	6.37
94.44	0.00

SHIRKHINDA S.H.P.
POWER POTENTIAL AT VARIOUS DEPENDABILITY

TABLE - 'E'

Per Dependability	Discharge in cumecs	Net Head in metre	Power Potential in KW
02.77	28.55	3.50	862.21
05.55	28.10	3.50	848.62
08.33	27.71	3.50	636.84
11.11	27.60	3.50	833.52
13.88	27.56	3.50	832.31
16.66	26.46	3.50	799.10
19.44	26.34	3.50	795.47
22.22	26.20	3.50	791.24
25.00	25.50	3.50	770.10
17.77	24.30	3.50	733.86
30.55	24.14	3.50	729.03
33.33	23.24	3.50	704.87
35.11	22.56	3.50	681.31
38.98	19.77	3.50	597.05
41.66	18.90	3.50	570.78
44.44	18.61	3.50	562.02
47.22	18.21	3.50	549.94
50.00	18.17	3.50	548.73
52.77	17.50	3.50	528.50
55.55	17.35	3.50	523.97
58.33	17.17	3.50	518.53
61.11	17.08	3.50	515.82
63.88	16.35	3.50	493.77
66.66	15.58	3.50	470.52
69.44	15.42	3.50	465.68
72.22	14.57	3.50	440.01
75.00	14.03	3.50	425.22
77.77	12.83	3.50	387.47
80.55	12.76	3.50	385.96
83.33	8.37	3.50	263.65
86.11	7.36	3.50	222.27
88.88	7.14	3.50	215.63
91.66	6.37	3.50	192.37
94.44	0.4	3.50	0.0



- 4.2.2 The Sone Canal System is more than a century old. The irrigation potential is under operation since then. The Sone Canal System is basically designed for irrigation purpose in its Command Area. In view of this, depending upon its topography, artificial falls have been provided at different intervals. Every fall structure is fitted with U-Groove, I-Section or Channels to regulate the head. The main purpose for providing fall is to maintain maximum level of water in the upstream of the fall so that there is proper gravity flow through irrigation vent/village distributories which generally are taken off in either or both sides of the canal at a distance of 200 M/300M in the upstream of the fall. Water in the canal in excess of the demand of irrigation/village distributory vents is drained to the down stream of the fall for utilisation of the same for irrigation in the down stream of the Canal System. It is basically this excess water that is proposed to be utilised for power generation and the discharge data collected from the irrigation Department and converted into 10 (ten) days daily discharge is basically this discharge of water. As explained, the maximum possible head is maintained in the upstream of the fall irrespective of increase/decrease of discharge, the head available at the fall site thus remains constant and this constant head is taken into consideration while calculating power potential of the fall site. The Turbine has also to be operated at a load corresponding to the discharge in a manner that the head of water does not get disturbed.
- 4.2.3 The existing irrigation channel will be disturbed in the design of S.H.P. to the extent explained in para 6.8C.
- 4.2.4 For providing Power Channel, Power House and Tailrace Channel, the existing road going to the nearby villages will get cut. Moreover, the service road of the Canal in upstream and downstream of the existing fall will also get cut. Hence, provision has been made for D.L.R. on the existing road and S.L.R. on the service roads.
- 4.2.5 Power House will be located in the by-pass channel and tailrace channel will lead to the D/S in the main canal.
- 4.2.6 The existing fall structure would not be disturbed. There is no provision of gates, etc. on upstream of Power House in the Power Channel or in the Main Canal. Main canal has provision for putting planks on the U-grove to maintain upstream head. Excess water due to surge action on sudden closure of the generating unit will be spilled through the ESCAPE made of concrete and masonry in the power

channel upstream of the Power House and will be drained to the tailrace channel through hume pipes. A lump sum cost for ESCAPE has been provided in the estimate but detail design and engineering will be done at the time of execution of the project.

4.3 **Power Potential**

4.3.1 With constant net head of 3.50 metre, flow and power potential has been computed and placed in Table - 'E'.

4.3.2 For Power Potential-computation 88% of overall average machine efficiency has been considered.

4.4. **Installed Capacity**

Selection of the installed capacities of the power house in both the circumstances is based the following issues :-

- i. Demand of power.
- ii. Running the machine for minimum period on part load.
- iii. Running one number of machine (out of two) for minimum period.
- iv. Total potential generated.
- v. Increment in energy and cost benefit.
- vi. Minimum expenditure without affecting generation.

4.2.2 The energy for different installed capacity varying from 400 KW to 800KW has been computed and is placed in table - 'F'.

It is evident from the Table - 'F' that incremental benefit begins to fall for capacity beyond 800 KW. This has been elucidated in para 4.43 (below).

4.4.3 The annual energy generation for installed capacity of Units 400 KW, 600 KW, 700 KW and 800 KW works out as 3647, 5066, 5263 and 5540 (Kwh x 10³). The Inter-difference in each two subsequent capacities is indicated in tabular form below :

Installed capacity	Annual energy generation (KWh x 10³)	Inter difference in energy (KWh x 10³)
400 KW	3647	--
600 KW	5066	1419
700 KW	5263	197
800 KW	5540	177

TABLE-F**POWER POTENTIAL AT VARIOUS INSTALLED CAPACITY - SHIRKHINDA S.H.P.**

% Dependability	Discharge in cusecs	Net Head in Mtr.	Power Potential in KW	Power Generated with installed capacity of				Energy generation in KWH X 10 ³ with installed capacity of			
				400 KW	600 KW	700 KW	800 KW	400 KW	600 KW	700 KW	800 KW
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
02.77	28.55	3.50	862.21	400	600	700	800	117	176	205	235
05.55	28.10	3.50	848.21	400	600	700	800	117	176	205	235
08.33	27.71	3.50	836.84	400	600	700	800	117	176	205	235
11.11	27.60	3.50	833.52	400	600	700	800	117	176	205	235
13.88	27.56	3.50	832.31	400	600	700	800	117	176	205	235
16.66	26.46	3.50	799.10	400	600	700	799.10	117	176	205	235
19.44	26.34	3.50	795.47	400	600	700	795.47	117	176	205	233
22.22	26.20	3.50	791.24	400	600	700	791.24	117	176	205	232
25.00	25.50	3.50	770.10	400	600	700	770.10	117	176	205	226
27.77	24.30	3.50	733.86	400	600	700	733.36	117	176	205	215
30.55	24.14	3.50	729.03	400	600	700	729.03	117	176	205	214
33.33	23.24	3.50	704.87	400	600	700	704.87	117	176	205	207
36.11	22.56	3.50	681.31	400	600	681.31	681.31	117	176	200	200
38.98	19.77	3.50	597.05	400	597.05	597.05	597.05	117	175	175	175
41.66	18.90	3.50	570.78	400	597.78	570.78	570.78	117	167	167	167
44.44	18.61	3.50	562.02	400	562.02	562.02	562.02	117	165	165	165
47.22	18.21	3.50	549.94	400	549.94	549.94	549.94	117	161	161	161
50.00	18.17	3.50	548.73	400	548.73	548.73	548.73	117	161	161	161
52.77	17.50	3.50	528.50	400	528.50	528.50	528.50	117	155	155	155
55.55	17.35	3.50	523.97	400	523.97	523.97	523.97	117	154	154	154

58.33	17.17	3.50	518.53	400	518.53	518.53	518.53	117	152	152	152
61.11	17.08	3.50	515.82	400	515.82	515.82	515.82	117	151	151	151
63.88	16.35	3.50	493.77	400	493.77	493.77	493.77	117	145	145	145
66.66	15.50	3.50	470.52	400	470.52	470.52	470.52	117	138	138	138
69.44	15.42	3.50	465.68	400	465.68	465.68	465.68	117	137	137	137
72.22	14.57	3.50	440.01	400	440.01	440.01	440.01	117	129	129	129
75.00	14.03	3.50	425.22	400	425.22	425.22	425.22	117	125	125	125
77.77	12.83	3.50	387.47	387.47	387.47	387.47	387.47	114	114	114	114
80.55	12.78	3.50	385.96	385.96	385.96	385.96	385.96	113	113	113	113
83.33	8.73	3.50	263.65	263.65	263.65	263.65	263.65	77	77	77	77
86.11	7.36	3.50	222.27	222.27	222.27	222.27	222.27	65	65	65	65
88.88	7.14	3.50	215.63	215.63	215.63	215.63	215.63	63	63	63	63
91.66	6.37	3.50	192.37	192.37	192.37	192.37	192.37	56	56	56	56
94.44	0.0	3.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							TOTAL-	3647	5066	5263	5540

N.B. As per Guidelines of C.E.A. (Standardisation by C.E.A.) clause No. 5.4.2, Page No. 20. Two units each of 350 KW (Total 700 KW) has been envisaged in the report.

4.4.4 The C.E.A. guidelines regarding standardisation of unit size states as under :-

"Turbines:- Various types of turbines to suit the combination of head and output have been developed in the world. In India, Pelton, Turgo-Impulse. Francis, Kaplan and Propeller type of turbines have been developed to cover head ranges between small and high heads. For very small head also, the know-how is available in the country with the already established firms. Other firms, both in private as well as public sector, have also shown interest in starting the manufacture of turbines for micro/mini/small hydro installations.

In the interest of standardisation, it is recommended that overall capacities of the unit may be chosen from the following :

10KW, 25KW, 50KW, 200KW, 250KW, 350KW, 500KW, 750KW, 1000KW, 1500KW, 2000KW, 2500KW, 3000KW, 3500KW, 4000KW, 4500KW and 5000KW.

4.4.5 As regards the decision for determining the number of units to be installed, Table-'G' with 350kW capacity has been prepared according to which the total annual generation comes to 5354x103 Kwh. Whereas as per Table-'F' if we instal one unit of 700kW only, the total annual generation will be 5263 x 103 Kwh. Though there is little difference in the annual generation between the two options i.e. one unit of 700 KW capacity and two units of 350KW capacity, but the utilisation of higher capacity machine in comparison of two units of lower capacity (keeping the total same in both alternatives) appears to be not fully utilised and actually becomes uneconomical (Refer Table-'F' & 'G'). The utilisation 700KW unit is limited to 88.88% dependability (on fully & part utilisation inclusive) and beyond this, unit can not be operated being less then 30% minimum loading. The pertinent issue relates to the utilisation of the unit at full discharge (23.20 cumecs), which in this case comes to the above of 33.33% dependability being of shorter period. It indicates this unit would run on part load from 33.33% dependability to 88.88% dependability. As such this creates a wide gap in full utilisation of the Unit.

In case of two units each of 350KW the unit remains fully utilised for longer period and its scope of utilisation upto 30% minimum loading

TABLE - 'G'**ENERGY CALCULATION SHEET FOR 2 X 350 KW UNITS AT SHIRKHINDA S.H.P.**

Percentage Dependability Vs. Power Potential						GENERATION IN Unit No.I			GENERATION IN Unit No.II			
Percentage Dependability	Discharge in cumecs	U/S Water level in power channel	D/S water level in Tailrace channel	Gross head available	Power potential in KW	Discharge through Unit-I in Cumecs	% of Design Discharge	Energy generated in KWH X 10 ³	Discharge through Unit-II in Cumecs	% of Design Discharge	Energy generated in KWH X 10 ³	Gross Total of Col. 10 + Col. 12.
01	02	03	04	05	06	07	08	09	10	11	12	13
02.77	28.55	96.328	92.508	3.82	862.10	11.60	50%	102.80	11.60	50%	102.80	205.60
05.55	28.10	96.298	92.508	3.79	848.50	11.60	50%	102.80	11.60	50%	102.80	205.60
08.33	27.71	96.288	92.508	3.78	836.70	11.60	50%	102.80	11.60	50%	102.80	205.60
11.11	27.60	96.268	92.508	3.76	833.40	11.60	50%	102.80	11.60	50%	102.80	205.60
13.88	27.56	96.258	92.508	3.75	832.20	11.60	50%	102.80	11.60	50%	102.80	205.60
16.66	26.46	96.198	92.508	3.69	799.00	11.60	50%	102.80	11.60	50%	102.80	205.60
19.44	26.34	96.188	92.508	3.68	795.40	11.60	50%	102.80	11.60	50%	102.80	205.60
22.22	26.20	96.178	92.508	3.67	791.10	11.60	50%	102.80	11.60	50%	102.80	205.60
25.00	25.50	96.148	92.508	3.64	770.00	11.60	50%	102.80	11.60	50%	102.80	205.60
27.77	24.30	96.078	92.508	3.57	733.80	11.60	50%	102.80	11.60	50%	102.80	205.60
30.55	24.14	96.058	92.508	3.55	728.90	11.60	50%	102.80	11.60	50%	102.80	205.60
33.33	23.24	96.008	92.508	3.50	701.70	11.60	50%	102.80	11.60	50%	102.80	205.60
36.11	22.56	95.968	92.468	3.50	681.20	11.60	50%	102.80	10.96	50%	97.12	199.92
38.98	19.77	95.798	92.298	3.50	597.00	11.60	50%	102.80	8.17	50%	72.40	175.20
41.66	18.90	95.738	92.238	3.50	570.70	11.60	50%	102.80	7.30	50%	64.70	167.50
44.44	18.61	95.718	92.218	3.50	561.95	11.60	50%	102.80	7.01	50%	62.12	164.92
47.22	18.21	95.688	92.188	3.50	549.90	11.60	50%	102.80	6.61	50%	58.60	161.40
50.00	18.17	95.688	92.188	3.50	548.65	11.60	50%	102.80	6.57	50%	58.22	161.02
52.77	17.50	95.648	92.148	3.50	528.40	11.60	50%	102.80	5.90	50%	52.30	155.10
01	02	03	04	05	06	07	08	09	10	11	12	13
55.55	17.35	95.628	92.128	3.50	523.90	11.60	50%	102.80	5.75	24.80%	50.95	153.75
58.33	17.17	95.618	92.118	3.50	518.50	11.60	50%	102.80	5.57	24.00%	49.36	152.16
61.11	17.08	95.608	92.108	3.50	515.75	11.60	50%	102.80	5.48	23.62%	48.60	151.40
63.88	16.35	95.568	92.068	3.50	493.70	11.60	50%	102.80	4.75	20.50%	42.10	144.90

(25)

66.66	15.50	95.508	92.008	3.50	470.45	11.60	50%	102.80	3.98	17.15%	35.30	138.10
69.44	15.42	95.498	91.998	3.50	465.60	11.60	50%	102.80	3.82	16.50%	33.90	136.70
72.22	14.57	95.468	91.968	3.50	440.00	11.60	50%	102.80	2.97	11.94%	-	102.80
75.00	14.03	95.398	91.898	3.50	423.65	11.60	50%	102.80	2.43	10.50%	-	102.80
77.77	12.83	95.318	91.818	3.50	387.40	11.60	50%	102.80	1.23	5.3%	-	102.80
80.55	12.78	95.308	91.808	3.50	385.90	11.60	50%	102.80	1.18	5.1%	-	102.80
83.33	8.73	94.988	91.488	3.50	263.60	8.73	37.63%	77.40	-	-	-	77.40
86.11	7.36	94.878	91.378	3.50	222.20	7.36	31.72%	65.20	-	-	-	65.20
88.88	7.14	94.858	91.358	3.50	215.60	7.14	30.80	63.30	-	-	-	63.30
91.66	6.37	94.778	91.278	3.50	192.35	6.37	27.46%	56.40	-	-	-	56.40
94.44	0.0	0.00	0.00	3.50	0.00	0.00	0.00	0.00	-	-	-	00.00
											TOTAL	5353.93

N.B.

- I. DESIGN DISCHARGE FOR 700KW - 23.20 CUMECS (PROVIDED 2 UNITS EACH OF 350KW).
- II. HEAD - 3.50m
- III. MINIMUM LOADING OF MACHINE - 30% (3.48 CUMECS)
- IV. BED WIDTH - 7.81 M
- V. F.S.D. - 1.88 M
- VI. SIDE SLOPE - 1-1/2:1
- VII. BED SLOPE - 1 IN 4500
- VIII. OVERALL EFFICIENCY OF MACHINE - 88%
- IX. SECTION OF POWER CHANNEL AND TAILRACE CHANNEL IS THE SAME.
- X. LOSS IN RUNNER BLADE/PASSAGE ETC. HAS NOT BEEN CONSIDERED, WHILE COMPUTING THE POWER POTENTIAL.
- XI. BED LEVEL OF POWER CHANNEL - 94.128M ABOVE MSL.
- XII. FULL SUPPLY LEVEL - 96.008M ABOVE MSL.
- XIII. BED LEVEL OF TAILRACE CHANNEL - 90.628 METRE ABOVE MSL.
- XIV. F.S.L. TAILRACE CHANNEL - 92.508M ABOVE MSL.

also gets enhanced. One unit of 350 KW remains in full utilisation upto 80.55% dependability and from 80.55% dependability to 88.88% dependability the unit would run on part load. Simultaneously the second unit would run fully upto 33.33% dependability. It indicates that smaller unit would be, in this case, more useful in view of utilisation and economy. As such two units each of 350KW have been considered.

4.4.6 It has been envisaged to consider the following design data so as to have the maximum power from the proposed unit.

- i. The turbine will have capacity for the maximum discharge of 23.20 cumecs and the constant rated head would be 3.50M. There are two units each of 350KW having discharge capacity of 11.60 cumecs.
- ii. Annual energy generated per annum works out to 5353×10^3 KWh with installed capacity of two units each of 350 KW capacity.

4.4.7 **Load Factor**

It has been envisaged that power house would run for 67% of the period in a year at 50% plant load factor. The system would be connected with the nearest grid near Sasaram. As per present power scenario near the project site there is acute shortage of power in the vicinity. This SHP will run at higher load factor but for all calculation 50% load factor has been adopted.

CHAPTER - 5

BASIC SYSTEM SCHEME

5.1 This Power Station is located at Shirkhinda fall in the Buxar Canal System. At Shirkhinda fall there is also a provision for a separate channel for navigation system. This navigation system is not in operation since a very long time. The maintenance of the navigation channel has also, therefore, been abandoned by the Water Resources Department.

5.2 For this S.H.P. it is proposed to take out a channel from 130 M up stream of the fall on right side of the navigation canal. The Power Station will be located in this channel. As it is proposed to instal Syphon Intake Type Vertical Semi-Kaplan Turbine there will be no need for a gate at either in take of this bypass canal or at the gate of the power station.

In this S.H.P. there will be two units of 350 KW capacity each Syphon Intake Type Semi-Kaplan Vertical Turbine coupled with a 350 KW Vertical Generator connected through reducing gear so as to enable to install a standard Generator. The generator will be 415 Volt, three phase, 50 CPS, 0.9 pf. From Generator Terminal 1100V grade cable will be taken out and connected to the 0.415 KV, three phase, aluminum bus of adequate capacity. There will be provision for grounding the neutral of both the generators but at a time only one generator neutral will be grounded. From 0.415 KV three phase bus which will be connected to both the generators, cable will be taken out for the out going feeder. As the inter-connection of this S.H.P. with the Sasaram 33/11KV grid sub-station has been planned at 11 KV, there will be one 875 KVA 0.415 KV/11 KV, three phase transformer. In between the transformer and the 0.415 KV bus there will be draw out type air circuit breaker of adequate capacity. After the Transformer on 11 KV side there will be provision of vaccum circuit breaker and thereafter 11KV air break switch. Lightening arrestor will be provided at the structure for taking off 11KV line to protect the transformer and the power station from heavy electrical surges. There will be provision of adequate C.T.'s. P.T.'s metres and other protection system as hereinafter described in Chapter - 7.

5.3 For auxiliary consumption one three phase line will be taken off from 0.415 KV bus which will be connected to a switch Fuse Unit and thereafter distributed for different purposes through Miniature Circuit Breaker of proper rating.

- 5.4 The general arrangement of the bypass channel showing the Power Station, Switchyard etc. will be clear from Exhibit No. 3

- 5.5 The Single Line Diagram showing the electrical system arrangement is given as Exhibit No. 7.

CHAPTER - 6

PLANT LAYOUT AND CIVIL STRUCTURES

6.1 The canal at the Shirkhinda S.H.P. site located at 9.6 KM of Buxar Branch Canal, has two components :-

(i) Canal Lock System, (ii) Fall System in the Canal.

Function of the two system differ in nature apart from keeping the canal in running condition.

6.2 **Canal Lock System :**

This consists of a huge brick work structure accompanied with massive two numbers of wooden gate of U/S and D/S side in the canal. The use of the canal was limited to the navigation purpose only i.e. to allow the passage of boats /Steamers. In the modern scientific age this has been abandoned and all structures and wooden gates are in dilapidated condition.

6.3 **Canal Fall System :**

Fall of suitable height is functioning in this portion keeping the water level maintained according to the need or irrigating the field. The fall is also of huge brick work and steel channels are fixed, where wooden planks are placed as per requirement to establish the water level. Excess water is allowed to spill over through this fall for the use of the down stream of the Canal.

6.4 Utilisation of the lock system canal was considered for installation of Power House at this site in view of economy but this proposal has been abandoned owing to the following facts :-

- a. Modernisation of the Sone Canal System which is in offing.
- b. Seepage water would be more in view of the hydraulic gradient as the power house will be very close to the fall system.
- c. Legal Aspect. Sone legislation will be required.

6.5 It has been contemplated to install Power House on the bypass channel. The bypass channel would emanate from the distance of 130 M on U/S of the fall and meet on the D/S of the fall through a Tailrace Channel.

6.6 **POWER HOUSE**

- 6.6.1 The location of all the components of the Power - House is so selected that it requires about 100M wide strip of land in a length of 450 M adjoining the existing canal. The required area of land is available, which belongs to the irrigation Department.
- 6.6.2 Power House consists of three essential constituents namely - (i) Machine Hall or Unit bay; (ii) Control room; (iii) Erection bay and auxiliary equipment. The dimensions of these elements have been planned in such a way that utility of the space with economy is maintained. The size of Power House building will be 16M x 12M. The ceiling height of the building will be 8.0 M in order to facilitate the handling of equipments. Control Room, Battery Room, Office and Stores have been located separately.
- 6.6.3 The Power House building will be constructed in brick masonry with R.C.C. stiffener provided at the suitable intervals. The roof will consist of Pre-cast reinforced concrete slab with false ceiling on steel trusses. These trusses would rest on the R.C.C. stiffeners. R.C.C. lintels and bands would be provided at suitable interval so as to strengthen the whole structure. Adequate numbers of doors and windows will be provided for natural lighting and ventilation. R.C.C. raft foundation has been contemplated for installing the machine, equipment. Trash racks will be provided at the up stream of turbines to prevent the entry of floating materials into the machine. The Power House building would be provided with lightening arrester suitably alongwith the grounding cables under the foundation of the machine for grounding the lightening surges.
- 6.6.4 Power House is envisaged to be located on the Power Channel itself. Syphon Intake Semi-Kaplan Vertical Turbine has been proposed. As such, provision of forebay or penstock is not necessary. Water would enter into the Turbine through Syphonic action.

6.7 **Tailrace Channel**

Tailrace Channel would be lined and has been designed accordingly. Discharge would remain same as in the case of power channel leading to the down stream of the fall in the main canal.

6.8 **Modification work on existing canal fall site**

- a. The existing fall in the main canal will be restructured and strengthened.

- b. Bridge : There is a bridge over the main canal and in continuation to this bridge one D.L.R. road bridge has been envisaged. This would facilitate the movement of general traffic over the power channel. Hand rails would be provided on the D.L.R.
- c. By the side of the existing main canal, Irrigation Channel is flowing. During actual execution of the work care, would be taken to keep this Irrigation Channel unaffected and maintain the irrigation potentiality as it is.

CHAPTER - 7

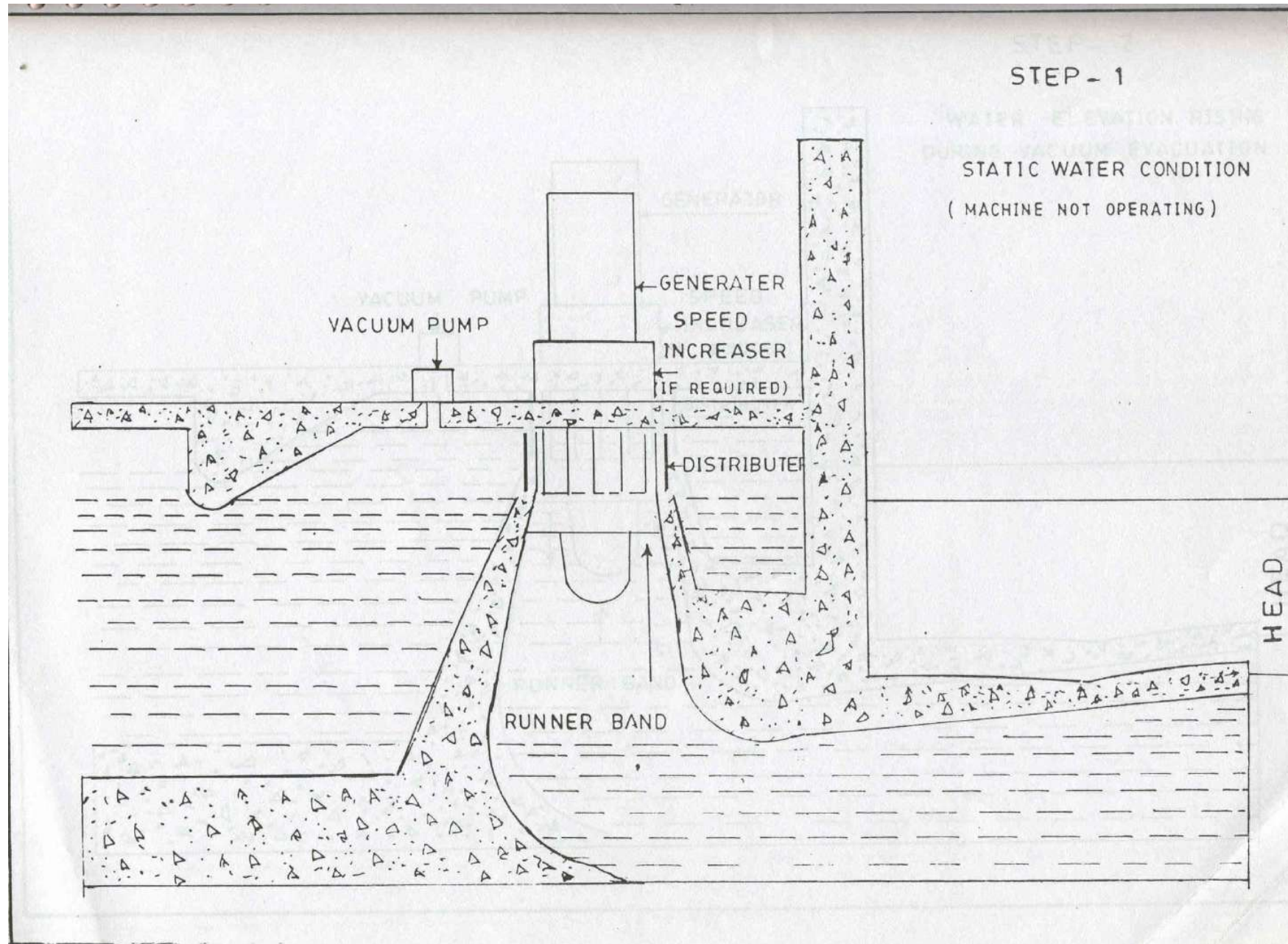
TECHNICAL SPECIFICATION OF ELECTRICALS & MECHANICAL EQUIPMENT

7.1. TURBINE

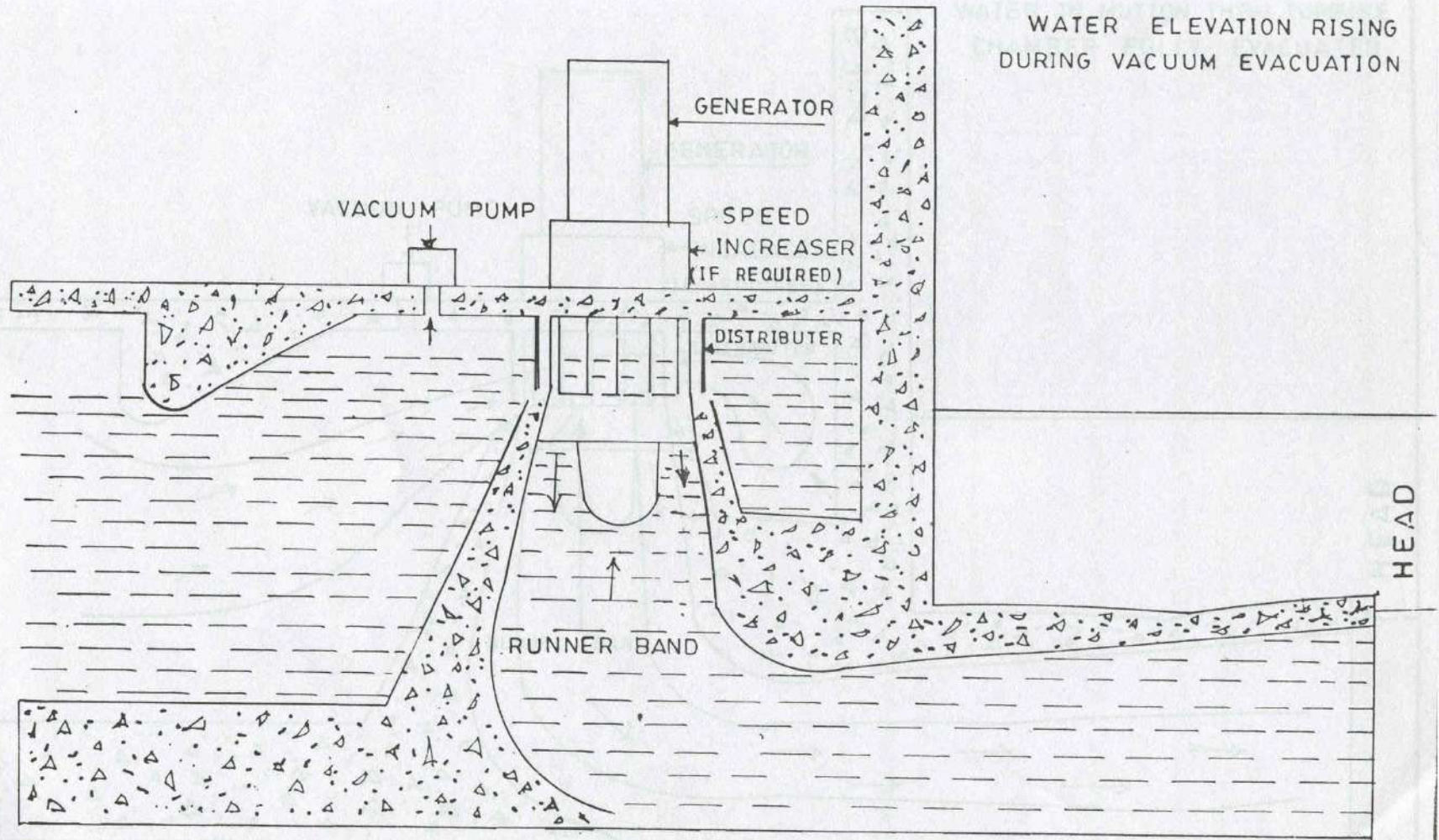
- 7.1.1 For a low head machine which is needed for this project, it is a general practice in India to use Horizontal 'S' Tubular Turbine due to easy maintenance and better efficiency for low head installation. This choice is limited upto runner dia upto 3 metrs. For a runner dia above 3 M Bulb type offers the most economic solution. As the runner dia in this case will be less than 3.00 M, the first choice goes for Horizontal Tubular Turbine.
- 7.1.2 The Tubular Turbine is a slow speed machine and it generally requires a gear box for speed increase in order to use a standard generator. Generally there is efficiency drop (1 to 2%) in the gear box, for Tubular Turbine there are four options i.e. Kaplan, Semi-Kaplan, Propeller with adjustable guide vanes, and Propeller type machine. In case of Propeller or Propeller Type Turbine, the efficiency range of operation is limited to 80% to 120% variation in head and 75% to 115% variation in discharge. In this particular case, the variation of head is negligible and there is only variation in discharge. The use of Propeller Turbine is, therefore, ruled out.
- 7.1.3 Kaplan Turbine has adjustable runner blades and guide vanes. In order to accommodate the runner blade adjustable mechanism in the runner home, the size of runner should be large enough. The Turbine is best suited where there is wide variation in head and/or discharge and its efficiency over a wide range of partial load is very good. Butterfly valve (BFV) for shut off purpose is not required in this type of turbine as the guide vanes themselves will close the turbine. The cost of this type of turbine is high.
- 7.1.4 Semi-Kaplan turbine has fixed guide vanes and adjustable runner blades. The necessity of large dia runner to accommodate mechanism for adjustable runner blade remains the same as for Kaplan turbine. Butterfly valve is required for shut off purposes. This type of turbine is less complicated than Kaplan turbine. The efficiency range of operation is limited compared to the Kaplan turbine. The cost of butterfly valve is, however, considerable with the result that the overall cost of the machine sometimes becomes as high as that of Kaplan turbine which is more efficient over a wide range of operation than semi-Kaplan turbine.

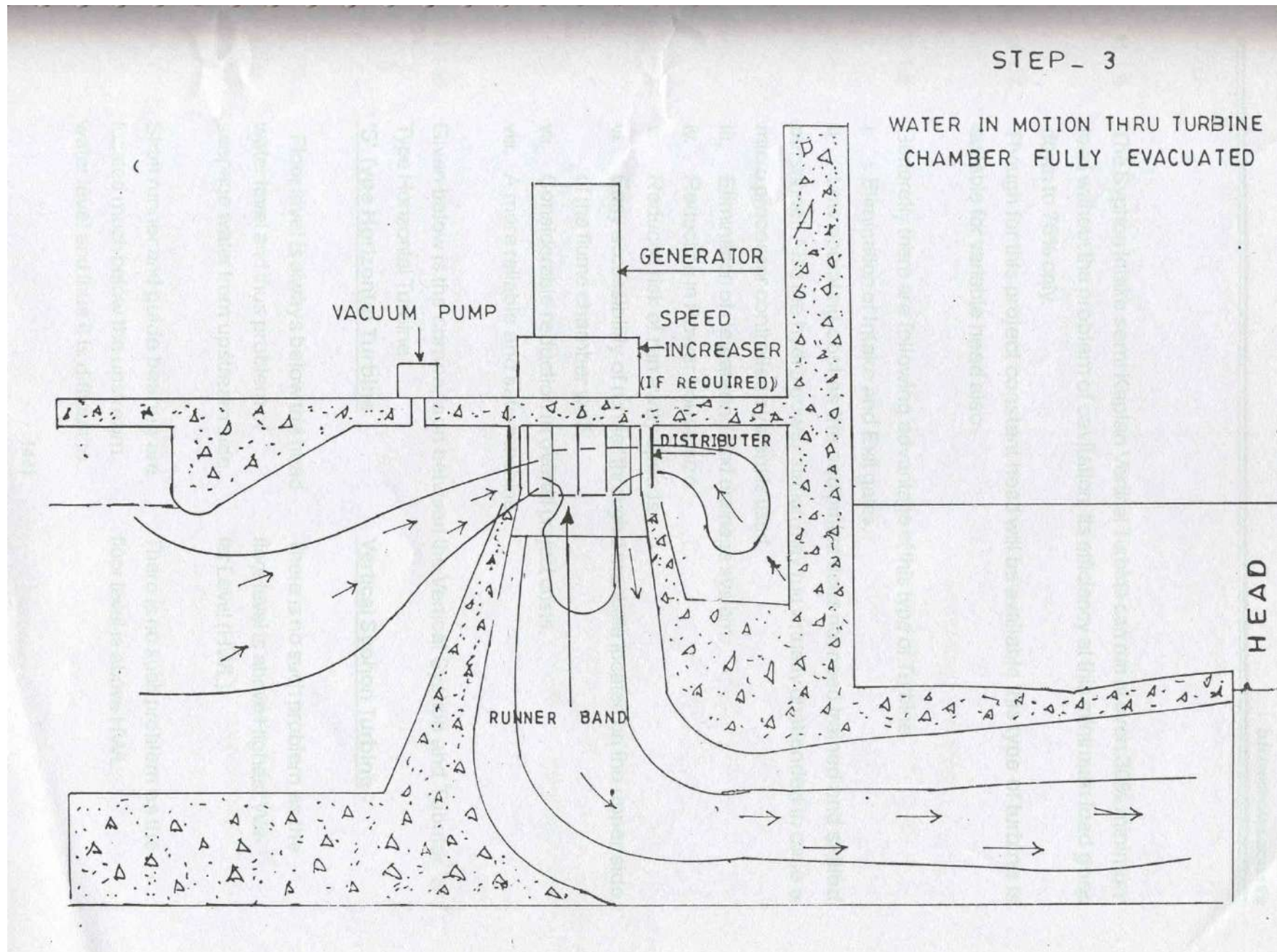
- 7.1.5 Now Vertical Semi-Kaplan turbine with Syphon intake with adjustable runner blade and fixed guide vane are being very frequently used. Moveable runner blade is controlled by a Hydraulic servomotor. The runner blades are adjusted to accommodate the variation in flow of water through the turbine and consequent control of load on the machine. This is achieved by movement of piston of runner servomotor. This also eliminates provision of intake/draft tube gates. By adopting proper control of opening of runner blades the load on the machine will be adjusted such that the level of water in the upstream of the fall will remain undisturbed. In this case also a gear box is used between the turbine and generator for using standard generator and in this case also the efficiency comes down by 1 to 2% due to gear box. In this case the investment cost is also less as the cost of machine as well as the cost of civil works in construction of power station is less. As the name suggests, the Vertical Turbine with Syphon Intake operation on the Syphon Principle i.e. the intake flume chamber valve is closed and made water tight and vacuum is created by a pump which enables water to enter the flume chamber and energises the runner. When the machine reaches synchronous speed this is synchronised with the grid like any conventional turbine. Shut down is brought about by following the reverse procedure i.e. by breaking vacuum. Since turbine operates on a Syphon Principle, it is not necessary to have Intake and Draft Tube gates thereby reducing the cost. The drawing showing Step-I, II & III fully explain how the machine operation is started by creating Syphon Intake.
- 7.1.6 The Syphon Intake semi Kaplan vertical Turbine can run at even 30% minimum load without the problem of cavitations. Its efficiency at this minimum load goes down to 76% only.
- 7.1.7 Though for this project constant head will be available this type of turbine is suitable for variable head also.
- 7.1.8 Generally there are following advantage of this type of Turbine.
- i. Elimination of Intake and Exit gates.
 - ii. Low operating cost as the equipment does not need trained and skilled personnel. Also the hydro power station may run virtually unattended in case a micro processor controlled system is used.
 - iii. Elimination of dewatering and drainage system.
 - iv. Reduction in power house size.
 - v. Reduced risk of run away speeds.
 - vi. Easy accessibility of runner through a manhole located on the upper side of the flume chamber wall.

- vii. Considerable reduction in overall project costs.
- viii. A more reliable and safe machine.



STEP - 2





7.1.9 Given below is the comparison between the Vertical Syphon and Tubular 'S' Type Horizontal Turbine.

'S' Type Horizontal Turbine	Vertical Syphon Turbine
Floor level is always below the head water level and thus problem of seepage water from upstream side.	There is no such problem as the floor level is above Highest Water Level (HWL).
Shaft runner and guide bearing are located much below the upstream water level and thus it is difficult to approach the same as there will always be some leakage through Gates.	There is no such problem as the floor level is above HWL.
Dismantling and assembly of shaft is very cumbersome as well as time consuming. Long shaft lengths add to this problem	Dismantling of shaft and Reassembly is very simple and quick.
There is always some leakage of water through the glands during running as well as standstill condition as it is continuously under pressure	There is no such problem in case of Vertical Syphon Turbine.
Complete weight of runner and part of shaft comes on guide bearings, therefore, its design and selection is very critical. It has been realised that there is a greater tendency of failure in the main guide bearing in horizontal shaft turbine due to the entry of silt in the bearings.	This type of problem is not associated with vertical type arrangement.
The replacement of guide bearing is quite troublesome as it is located inside the	There is no such problem as the guide bearing is approachable from the power house floor and is

tubular casing and it needs special supporting fixtures for shaft before replacement.	made in two split parts.
During floods, power house will be completely submerged.	In such case power house floor is always above HWL, hence the equipments are out of water.
It is difficult to stop the turbine rotation if gates have been stuck or seals have been damaged or silt has been accumulated on the sill beam. In such case the turbine continues to spin at high speed which could be extremely damaging to the turbine rotating parts.	Such problems are never faced as the machine can be brought stand still condition by just breaking the syphon.
The size of power house is large	The power house is compact in size
Intake and draft tube gates are essential	No intake and draft tube gates required.
The cost of civil works are high	The cost of civil works is low.
More maintenance required as 'S' type turbines are more prone to faults.	Low maintenance is required as the turbine is less prone to faults.
Erection of T.G. equipment requires more time after civil works completion	The T.G. equipment can be installed in a very short time after completion of civil works.
Turbine are mostly used for heads above 3 M upto 20M.	Turbines are ideally suited for needs between 2M and 5M because of syphon system adaptability.
'S' type turbine requires minimum straight length of intake channel leading to higher civil cost.	No such constraint of length of intake channel, thus reducing civil costs and allowing for cost effective layout.

As the machine size has been decided to be 700 KW in para 4.4.6 of this DPR it is recommended to have 2 x 350 KW vertical semi-Kaplan turbine with Syphon intake for this Power Station.

7.1.10 The guidelines of C.E.A. for preparation of D.P.R. does not take into account this type of turbine when the guideline was prepared in the year 1982 this technology had not been developed. Such turbines are in use in Punjab, Andhra Pradesh and in Orissa. This type of turbine is most economical and suitable for installation in canal fall sites. It is, therefore, recommended to have Vertical Semi-Kaplan Turbines with Syphon Intake for this power station.

7.1.11 **TURBINE COMPONENTS**

Vertical Semi-Kaplan turbine with Syphon intake will generally consist of the following :

- Runner
- Shaft
- Head cover
- Discharge Ring
- Distributor
- Draft tube
- Chassis
- Coupling between turbine and gear box
- Coupling between gearbox and generator
- Servomotor for runner blades
- Hydraulic pumping unit
- Grease Pump/ Cooling Water System
- Vacuum Pump with Dewatering Valve
- Electronic Governor

Short description of important parts of the Turbine is given below :-

Runner

The turbine runner will be fitted with 3/4 adjustable blades in stainless steel mounted on a steel hub.

The runner blades will be adjustable so that the turbine can operate over a wide range of flows while maintaining good efficiency.

The blade motion mechanism will be located inside the steel hub.

The blade bearings will generally be made of 'Orkot', a self-lubricating material with high mechanical resistance.

Seals will prevent water from entering the hub area where the blade serve mechanism is located.

All the parts - blades, hub, etc. are geometrically profiled, shaped and surface finished.

Prior to shipping the turbine, the runner blades will be carefully balanced.

TURBINE SHAFT

The turbine shaft is fitted with flanges for coupling the runner and speed increaser. This shaft is bored in order to accommodate the blade control rod for adjustability.

The shaft bearing is located inside the head cover, just above the runner. It is antifriction type, continuously lubricated by an external grease/water pump. The bearing material shall be THORDON/WHITE METAL and the bearing housing is in two halves so that it can be installed or removed without having to remove the shaft itself. Sealing is provided by a Teflon packing located above the shaft bearing. This concept allows for continuous lubrication of the seal to avoid any manual maintenance.

DISCHARGE RING

The Discharge ring will be fabricated from mild steel and will be machined in order to keep the gap between the blades and Discharge ring as narrow as possible. Its semi-hemispheric profile provides a maximum efficiency through the turbine runner.

The Discharge ring is embedded in the concrete since it does not need to be disassembled for maintenance purpose.

HEAD COVER

The head cover has two functions

- Hydraulically: the head-cover assists the hydraulic shape of the distributor and provides the seal for the spiral casing.
- Mechanically: the head-cover supports the shaft bearing and shaft seal, and therefore, the runner. It is bolted to the distributor and can be removed easily for access to the runner.

DISTRIBUTOR

- Distributor will be fitted with fixed wicket gate which direct and orient the water flow towards the runner.
- All the surface of the wicket gates will be smooth, free from any defect and each wicket gate is partially machined on each side.

SPEED INCREASER

The speed increaser allows for the connection of the runner and generator. The speed increaser obtains a higher speed on the exist shaft. The multiplication ratio is

calculated in such a way as to obtain the high speed shaft a speed close to the generators speed.

DRAFT TUBE

The draft tube shall be made of mild steel.

7.1.12 **DEWATERING AND DRAINAGE SYSTEM**

In principle dewatering system is not required since all mechanical components are out of water when the machine has stopped. It is not necessary to dry the flume chamber or the draft tube.

7.1.13 **HYDRAULIC POWER UNIT**

The hydraulic pumping unit consists of a oil reservoir and the pump which command and control elements of the hydraulic circuit. The pump feed the servo motor circuit.

The Pumping unit includes the following equipments :-

- One hydraulic mechanical pump.
- Two hydraulic electro pumps (one main & one standby)
- Electro valve to open and close the blades and guide Vanes.
- Pressure control valves.
- Filters.
- Flow reducers to set the opening & closing time Monometers.
- Manometers.
- Oil level control switch.
- Bearing lubrication system.
- Misc. accessories.

7.1.14 **TURBINE CONTROLS :**

The Turbine will have the following controls :-

Sl.No. Description

- | | | |
|----|-------------------------------|------------|
| a. | Gate limit control. | |
| b. | Auto manual selection switch. | |
| c. | Speed level controller | Electronic |
| d. | Speed droop controller. | Governor |

- | | | |
|----|-----------------------------|----------|
| e. | Manual turbine gate control | built in |
| f. | Turbine bladed lock | feature. |
| g. | Water Level Control | |
| h. | Overspeed control | |
| i. | Control for oil pump motor | |
| j. | Turbine shut down control | |

7.1.15 **TURBINE SAFETY DEVICES**

The Turbine will have the following Safety Devices :-

Sl.No. Description

- | | |
|----|--|
| a. | Turbine Guide Bearing Cooling water flow or Lube Oil flow. |
| b. | Governor oil pressure low |
| c. | Unit over speed shut down. |
| d. | Pressure tank oil pressure failure |
| e. | Manual emergency shut down. |
| f. | Gear box bearing temp. high. |
| g. | Gear box lube oil pressure low |
| h. | Turbine guide/trust bearing temperature |

7.1.16 **TURBINE INDICATION/RECORDING INSTRUMENTS**

The Turbine will generally have the following Indicating/Recording Instruments :-

Sl.No. Description

- | | |
|----|---|
| a. | Pressure of shaft seal cooling water. |
| b. | Gate limit and gate position indicator. |
| c. | Unit speed indication. |
| d. | Over speed indicator. |
| e. | Speed level setting indicator. |
| f. | Speed droop-setting indicator. |
| g. | Upstream/downstream water level indicator. |
| h. | Unit output meter for power and energy. |
| i. | Unit voltmeter. |
| j. | Unit ammeter. |
| k. | Pressure of regulating oil pressure system. |
| l. | Level of oil in pump tank |

- m. Pressure of standby oil pump.
- n. Standby oil pump in operation.
- o. Turbine bearing temp.
- p. Gear box bearing temp.
- q. Indication of runner blade.

7.2 **GENERATOR**

7.2.1 Where Electricity Grid is strong and stable it has become a practice to use induction generator as this is cheaper in construction, easy for operation as well as this eliminates the use of Governor and excitation system which considerably reduces the cost. In the case of this S.H.P., though the power is proposed to be fed to 33/11KV Sub-Station at Daudnagar of the Bihar State Electricity Board, the grid is not stable and very often there is no power available in the grid in which case machine will be idle. Hence, even though induction generator would be a cheaper proposition, the same can not be used in this case. Naturally choice, therefore, goes to Synchronous Generator.

7.2.2 It is proposed to instal two Synchronous Generators of 500 KW capacity each three phase 50 C.P.S., power factor 0.9. The Speed of the Generator will depend on the manufacturer as it will be depending on the speed of the Turbine and the speed of the Speed-Increaser. For this small size generator voltage of 415 V is economical and hence, generation voltage will be 415 V only. Moreover, this eliminates use of power-transformer for auxiliary consumption. The excitation system will be brushless using static excitation system with thyrister. The Synchronous generator will be able to operate in isolation as well as in parallel with the grid. For this, synchronising equipment will also be provided. The generator will be according to International standards with reference to special customer's requirements and latest I.E.C.C. recommendations. It shall be of vertical type with I.P.-23/IC-01 degree of protection with its own air ventilation. The windings shall be insulated with Class 'F' insulation with temperature rise limited to class 'B' insulation. The Generator bearings will be pedestal mounted self oil lubricated sleeve bearing as sleeve bearings life will be more than 100000 working hours. The bearings

will be adequately insulated to prevent any harmful circulating current. The bearings shall also be suitable to withstand the runaway speed upto 15 minutes. The generator shall meet the requirements of B.I.S.-4722/92 and shall deliver rated output with temperature rise limited to 80⁰C over an ambient of 50⁰ and shall also be suitable to deliver 10% more power than the rated output continuously with temperature rise limited to 100⁰C on ambient of 40⁰C by E.T.D.

7.2.3 **COOLING OF THE MACHINE**

The Generator shall be enclosed in screen protected drip proof enclosure i.e. (IP-23/IC-01). The Generator shall be air cooled.

7.2.4 Each Generator will generally consist of the following parts :

- Generator stator complete with frame, soleplates, stator core, winding with accessories and terminals.
- Generator rotor, complete with shaft, spider rim pole with windings and accessories.
- One set bearing.
- One set of anti condensation spare heaters.
- One set air guides.
- One set brushless excitation unit with AVR.
- One number base plate to mount the generator.
- One set foundation bolts with nuts.
- One set stator winding RTDs with terminals brought out in separate RTD terminal box.
- One set dial temperature with electrical contacts for alarm and trip for bearing.
- One number RTD/BTD per bearing for temperature indication of bearing oil bath.

7.3 **LT SWITCHBOARD AND GENERATOR CONTROL PANEL**

The LT Switchboard will be sheet steel enclosed cubicle of 3mm sheet for doors and 2mm sheet for rest of the panel, free standing, floor mounting type dust and vermin proof for operation at 415V, 3 phase, 4 wire, 50 Hz AC having aluminium busbar of rating 1200 A and neutral of half the rating

generally comprising of the following equipment/accessories duly fitted and wired as required.

QUANTITY	DESCRIPTION
2 No.	Incoming panel with generator & turbine control panel each equipped with:
1	Triple pole electrically operated draw out type air circuit breaker of 900 A, 30 KA rating at service voltage 415V having adequate breaking capacity with main arcing contacts, arcchutes, deion grids with mechanical ON/OFF indicator. The breaker shall be provided with instantaneous magnetic release thermal overload and shunt trip coil suitable for 24V DC and provision for tripping the breaker from remote push button or from relay contacts.
1	Generator neutral isolating switch of rating 500A (TP) with all poles shorted mounted at rear of panel with pad-lock arrangements.
1.	MISC. ammeter range 0-800A flush mounting type with 3 way ammeter selector switch having off position.
1	Power factor meter range 0.5 - 1-0.5 flush mounting type.
1	Reed type frequency meter range 45-50-55 Hz flush mounting type.
1	KW meter range 0-500 KW flush mounting type size suitable for 3 phase, 3 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
1	KVAR meter flush mounting type suitable for 3 phase, 4 wire system.
1	Triple pole over current relay (51V)
1	Negative phase sequence relay (46)
1	Over voltage relay (59)
1	Under voltage relay (27)
1	Check synchronising relay (25)
1	Generator differential relay (87G)
1	Stator Earth fault relay (64G)
1	Loss of excitation relay (400)
1	Reverse power relay (32P)

1	Surge diverter
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7.3.1 **CONTROLS**

The following controls will be provided :

- a. Emergency off push button (mechanical)
- b. Generator anti-condensation heater ON & OFF switch.
- c. Panel heater ON and OFF switch.
- d. Alarm acknowledge push button.
- e. Healthy trip circuit test push button.
- f. Reset push button.
- g. Generator low oil pressure.
- h. Breaker ON/OFF push buttons.
- i. Voltage rise/lower spring return switch.

7.3.2 **INDICATING LAMPS**

The following indications will be provided on the control phase :

- a. Incoming circuit breaker on.
- b. Incoming circuit breaker off.
- c. Auto trip-Electrical fault.
- d. Auto trip-Mechanical fault.
- e. Governor low oil pressure trip contact bypass.
- f. Healthy trip circuit.
- g. DC supply fail.
- h. Turbine bearing temperature high.
- i. Generator anti-condensation heater ON.

7.3.3 The Switchboard will have following provisions :

QUANTITY	DESCRIPTION
1	8 point micro processor based temperature scanner for generator stator winding and generator bearing temperature with alarm and trip setting.
1	Panel heater with suitable thermostat.
6	Single core current transformer ratio 800/5A class of accuracy PS for

	generator differential relay.
3	Double core current transformer ratio 800/5/5A Core-1: Accuracy class 5 P10 and burden 15 VA for protection. Core-2: Accuracy class 1.0 and burden 15VA for metering.
1	Single core current transformer ratio 500/1A accuracy class 1.0 and burden 10 VA for droop measurement.
1	Voltage transformer ratio 415/V3/110/V3 V. burden 100VA, accuracy class 1.0 for protection.
1	16 Window annunciation shall be provided for following fault annunciation: a. Differential relay trip. b. Over current relay trip c. Reverse power trip d. Over voltage relay trip e. Negative phase sequence relay trip f. Generator bearing temp. trip. g. Generator stator winding trip. h. Over speed trip. i. Governor oil pressure low j. Emergency shut down k. Spare window 5 nos.

7.3.4 The following provisions will also be made in the Switch board Panel:

QUANTITY	DESCRIPTION
20	Auxiliary relays for annunciation and tripping circuits.
3	Surge diverters on main busbar.
1	Overspeed switch assembly and indicator.
1	Automatic Voltage Regulator (AVR).
1	Automatic Power Factor Regulator.
1	Voltage adjust motorised potentiometer.
1	Auto manual changeover switch
1	Contactors
1	Rectifier Assembly

1	Motorised Variac
1	3-Winding transformers

7.3.5

QUANTITY	DESCRIPTION
2 Nos.	415V Feeder Control Panel equipped with
1	Air Circuit breaker as Item No.1 above but of rating 500A, 30 KA, 415 V.
1	MISC ammeter range 0-500 A, flush mounting type, with 3 way selector switch having off position.
1	KW meter range 0-500 KW, flush mounting type, suitable for 3 phase, 4 wire system.
1	KWH meter flush mounting type suitable for 3 phase, 4 wire system.
3	Double core current transformer ratio 500/5/5A, burden 15 VA accuracy class 1.0 for metering and 5P 10 for protection.
QUANTITY	DESCRIPTION
1	Feeder ON indicating lamp.
1	Feeder OFF indicating lamp.
1	Emergency OFF push button (Mechanical)
1	Panel heater ON & OFF switch.
1	Panel inside illuminating lamp with switch
1	Breaker ON & OFF push buttons.

7.3.6

STATION AUXILIARY PANEL

This will generally consist of the following provisions :-

1	Switch fuse unit of rating 250A with thermal setting at 150A.
1	Emergency off push button (Mechanical).
6	Miniature circuit breaker rating TPN 63A, 415V.
10	Miniature circuit breaker rating TPN 32A, 415V.
8	Miniature circuit breaker rating TPN 20A, 415 V.
10	Miniature circuit breaker rating SPN 16A, 415V.
18	Indicating lamps.
1	Panel heater with thermostat.

1	Panel inside illuminating lamp.
1	MISC. Ammeter with range 0-250A, flush mounting with selector switch.
1	KWH meter, flush mounting suitable for 3 phase 4 wire system.
2	Breaker ON/OFF push buttons
1	Earth fault relay
3	Current transformer ratio 400/5 A, class 1.0 burden 5 VA for ammeter.
1	Current transformer 600/5, class 5P10, burden 10 VA for E/F placed in neutral line.

7.3.7 **SYNCHRONISING BRACKET**

The Synchronising Bracket will be mounted on left hand side of the panel and shall be of swinging type and will have following provisions:

QUANTITY	DESCRIPTION
1	Synchroscope
1	Double coltmeter
1	Double frequency meter
1	Synchronising check relay (25) with guard relay.
1	Synchronising selector switch
1 Set	Auxiliary relays
1	Synchronising lamp

7.4 **POWER EVACUATION SYSTEM**

7.4.1 As B.H.P.C. is not distributing power under license from the Government and is mainly responsible for development for Hydel Power in the state, the power generated from this Power Station will be supplied to the grid of the Bihar State Electricity Board, who are responsible for power distribution in the State. The nearest 33/11 KV sub-station is at Sasaram and, therefore, single circuit 11 KV line will be constructed between this S.H.P. and the Sasaram 33/11 KV Sub-station of B.S.E.B. The length of the line will be 20 Km and will be constructed on 185 lb rail pole/400 KG Pole with rabbit conductor.

- 7.4.2 As the generator voltage is 0.415 KV power transformer of 1250 KVA capacity, 0.415/11 KV, 3 phase, 50 cps will be installed in the switchyard. For control of this transformer and the 11 KV transmission line the following provisions will be made in the switchyard.

Sl. No.	DESCRIPTION	QUANTITY
1	12 KV 1250A, 30 KA Outdoor Vacuum Circuit breaker	1 No.
2.	800 Amps, 11 KV Air Break Isolating Switches with Earth Switch outdoor type manually gang operated, double break type complete with operating mechanism.	1 No.
3	Four core CTs on 11 KV side of Ratio 800/5/5 A: Core 1 : Burden 30 VA, Class 1.0 for Metering. Core 2 : Burden 30 VA, Class 5P10 for Protection	3 Nos.
4	Lightning Arrestors of 12KV, 10KA rating	3 Nos.
5.	Single Potential Transformers of ratio 11 KV/V3/110V/V3 Core 1 : Burden 100 VA, Class 1.0 for Protection and Metering.	6 Nos.
6.	Structures for LA, 11KV Breaker CTs, PTs and Isolators	1 Set
7	Earth Switch	1 Set
8.	Earthing system for switchyard	1 Set
9.	ACSR Conductor, clamps, connector, etc.	1 Set
10.	Cabling	1 Set

The terminal equipments at B.S.E.B. grid sub-station at Sasaram will be provided by BSEB and therefore, it has not been taken into account in the estimate.

7.5 **L.T. POWER AND CONTROL CABLES**

7.5.1 **L.T. A.C. POWER CABLES**

660/1100 V grade, 1 No. 3 core, 400x2 sq. mm PVC sleeve Aluminium armoured conductor for interconnection between Generator and 415V

Incoming Panel and Neutral Grounding Cubicle with suitable flexible connections and jumpers.

660/1100V grade, 1 No., 3 core, 400x2sqr.mm PVC sleaved Aluminium armoured conductor for inter connection between 415V Switchgear and step up Power Transformer primary with suitable flexible connections and jumpers.

660/1100V grade PVC insulated 3 1/2 core, 150 sqr.mm Armoured Aluminium conductor power cable for interconnection between L.T. Panel and L.T. Station auxiliary panel (MCC).

660/1100V grade PVC insulated 3 core, 150 sqr.mm Armoured Aluminium conductor power cable for interconnection between 415V Switchgear and MCC Panel and Lighting MCC.

7.5.2

L.T. CONTROL CABLES

660/1100V grade PVC insulated stranded copper conductor armoured cable for interconnection between field equipments and control panels including motors and MCC panels, CT/PT secondary connections and between various control panels to make the system complete for the equipment.

The following sizes of cables may be used :-

- i. 3C x 10 sqr.mm
- ii. 3C x 4 sqr.mm
- iii. 2C x 2.5 sqr.mm
- iv. 14C x 1.5 sqr. mm
- v. 7C x 1.5 sqr. mm
- vi. 3C x 1.5 sqr. mm

Control Cables upto 2.5 sqr.mm shall be solid conductor and above 2.5 sqr.mm the conductor shall be stranded.

All control conductors shall be of copper.

7.6

D.C. SYSTEM

- 7.6.1 DC power will be required for control and enunciation purpose. For this 24 Volt, 48 ah capacity battery with provision of trickles charger, float charger, booster charger will be provided.

7.6.2 **D.C. DISTRIBUTION SYSTEM**

There will be five outgoing feeders and this distribution will consist of double pole DC on/off switch for outgoing feeders, fuse base HRC link indicating valves.

Typical Schematic diagram for 24V DC System is given in Exhibit No.8.

7.7 **LIGHTING SYSTEM**

- 7.7.1 The lighting system will be designed as per relevant IEC or IS standards. The lighting system may generally consist of the followings:-

a.	Industrial type fitting with 2x40W fluorescent lamp	10 Nos.
b.	Industrial type fitting with 1x40W fluorescent lamp	4 Nos.
c.	Street light fitting with 150W lamp for the outer area of power house	10 Nos.
d.	3 phase industrial outdoor type over outlet	1 No.
e.	250W flood light higher pressure sodium vapour lamps for switch yard	2 Nos.
f.	Emergency light fitting of 20DW	4 Nos.
g.	5A, 1 PH flush type socket	14 Nos.
h.	15A, 1 PH, industrial socket	14 Nos.
i.	Junction box suitable for 4 way entry	20 Nos.
j.	63A, metal clad, welding power socket	1 No.

7.8 **VENTILATION**

7.8.1 Power House Ventilation System will consist mainly of exhaust fan, ceiling fan and pedestal fan. As this S.H.P. is located in a hot climate one 1.5 ton air conditioner will be required for its Control Room. The ventilation system will, therefore, consist of the following :-

- | | | |
|----|---------------------------|---------|
| a. | 250W wall mounted fan | 10 Nos. |
| b. | 250W pedestal fan | 09 Nos. |
| c. | Ceiling fan | 06 Nos. |
| d. | 1-1/2 ton air conditioner | 01 No. |

7.9 **FIRE FIGHTING SYSTEM**

7.9.1 This power station very small, it will be provided only with portable fire extinguishers. Generally the following fire fighting equipment will be provided in this power station :

- | | | |
|----|---|---------|
| a. | Foam type 9 litre capacity fire extinguishers | 10 Nos. |
| b. | CO2 TYPE 6.5 KG. Capacity fire extinguishers trolley mounted | 09 Nos. |
| c. | CO ₂ type 22.5 kg. capacity fire extinguishers trolley mounted | 02 Nos. |

7.10 **EARTHING**

The earthing system will be designed with fault current of 40 KAmpr and soil resistivity equal to 20 ohm-mtrs. The calculation for earth mat will have to done as per IS:3042/1987. The duration of fault for calculating design of earth mat will be taken as T=1.0 sec. At the time of designing this earth mat, however, the resistivity has to be measured and design should be done accordingly.

7.11 **EMERGENCY POWER**

This S.H.P. will be connected to the grid and so long as there is power in the grid even if the S.H.P. is not in operation AC power will be available at this S.H.P. and there will be no problem of lighting and for charging of the DC

battery system. There may, however, be occasion when the S.H.P. is under shutdown and either due to trouble in the B.S.E.B. grid or due to trouble in the 11 KV line connecting this S.H.P. with the B.S.E.B. grid sub-station, there will be no power available for a few days.

In such circumstances, power will be needed for emergency lighting and for charging of the battery system. It is, therefore, proposed to instal a 30KVA, three phase, 50 cycles per sec., 0.415 KV Diesel Generator set to be installed in this power station. Provision has, therefore, been made in the estimate for this Diesel Generating unit with its control board.

This Generating Set will also be used during construction of the Power Station.

The Exhibit No. 9 gives the typical schematic diagram of emergency supply.

CHAPTER - 8

CONCEPTUAL DESIGN OF CIVIL STRUCTURES

8.1 **Design of Civil works**

8.2 The Shirkhinda S.H.P. consists of the following major structures :

- i. Head race channel.
- ii. Power House.
- iii. Tailrace channel.
- iv. Approach road, bridges and irrigation channel.

8.3 The geometric design of the project has been envisaged in such a way that the power potential of the fall is utilised in efficient and systematic way. The layout of power house and its allied components is proposed to be located in a bypass channel. The head race bypass channel will lead from the upstream of the existing fall of the main canal and will be concrete lined. The down stream channel called trailrace channel will lead the water into the main channel down stream of the existing fall. The tailrace channel will be also concrete lined.

8.3.1 The Power House will be equipped with trash rack arrangement to arrest logs etc. At the time of emergency trip of the turbine, vaccum will be broken and thus water flow to the turbine will stop. There will be no need of a gate in the power channel at entry of the power house and in the tailrace.

The headrace channel and tailrace channel, though located in the bypass channel, have been kept close to the main canal in view of economy as in this case length of the head race channel and tail race channel will be smaller.

8.4 **Design of Headrace Channel**

Power channel will be concrete lined and of trapezoidal section.

8.4.1 As per power potential the design discharge is 23.20 cumecs.

Design is elucidated as under :

Design data

Discharge 23.20 cumecs

Side Slope $s = 1:1.5$

Bed Slope $s = 1:4500$

$$\text{Limiting Velocity } V = \left(\frac{Q}{4K_1 K^2} \right)^{0.25}$$

$$\text{When } K = \left(\frac{n}{S} \right)^{3/2} \text{ and } K_1 = (2 / S^2 + 1 - S)$$

$$K = \frac{(0.018)^{3/2}}{1/4500} = \frac{(0.018)^{3/2}}{0.0149} = 1.33$$

$$K_1 = (2 / S^2 + 1 - s) = (2 / 0.67^2 + 1 - 0.67) = 1.73$$

$$\therefore V = \frac{(23.20)^{0.25}}{4 \times 1.73 \times 1.33^2} = \frac{(2.53)^{0.25}}{(1.895)^{0.25}}$$

$$= 1.17 \text{ M/Sec.}$$

$$V = 1/n R^{2/3} S^{1/2}$$

$$\text{OR } 1/0.08 R^{2/3} (1/4500)^{1/2} = 1.05 \text{ Taken}$$

$$R^{2/3} = 1.05 \times 0.08 / 0.015 = 1.26 \therefore R = 1.41$$

$$A = 23.20 / 1.05 = 22.095$$

$$P = 22.095 / 1.41 = 15.67$$

Adopting Trapezoidal Section Side slope = 1.5:1

$$\cot \theta = 3/2 \therefore \theta = \cot^{-1} 3/2 = 34.1^\circ = 0.59 \text{ radians}$$

$$A = BD + D^2 \cot \theta + D^2 \cot \theta \text{ and}$$

$$P = B + 2D \cot \theta + 2D \cot \theta$$

$$\therefore R = A/P = \frac{BD + D^2 \cot \theta + D^2 \cot \theta}{B + 2D \cot \theta + 2D \cot \theta}$$

Substituting the value of Q & $\cot \theta$

(58)

$$R = \frac{BD + 0.59 D^2 + 1.5 D^2}{B + 2D \times 0.59 + 2 \times 1.5D} \quad \frac{BD + 2.09 D^2}{B = 4.18 D}$$

$$A = BD + 2.09 D^2 = 22.095 \quad (i)$$

$$P = B + 4.18D = 15.67$$

$$\therefore B = 15.67 - 4.18 D$$

Substituting this value in equation (i) above

$$D (15.67 - 4.18D) + 2.09 D^2 = 22.095$$

$$\text{Or } 15.67 D - 4.18D^2 + 2.09 D^2 = 22.095$$

$$\text{Or } -2.09D^2 + 15.67D - 22.095 = 0$$

$$\text{Or } D^2 - 7.50D + 10.57 = 0$$

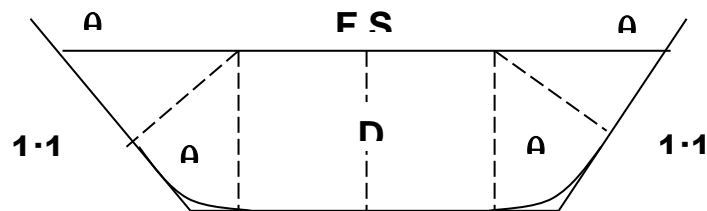
$$\therefore D = \frac{7.50 \pm \sqrt{7.50^2 - 4 \times 10.57}}{2} = \frac{7.50 \pm \sqrt{56.25 - 42.28}}{2}$$

$$= \frac{7.50 \pm \sqrt{13.97}}{2} = \frac{7.50 \pm 3.74}{2}$$

$$\therefore D = 1.88 \text{ or } 5.62$$

Adopt $D = 1.88 \text{ M}$

$$\therefore B = 15.67 - 4.18D = 15.67 - 4.18 \times 1.88 = 7.81 \text{ M}$$



SECTION OF LINED CHANNEL

Line Canal Section :-

Bed width $B = 7.81 \text{ M}$

Full supply Depth $D = 1.88 \text{ M}$

Side Slope $1:1.5$

Longitudinal slope = 1 in 4500

$n = 0.018$

8.4.2 Tail Race Channel - The same section would be adopted for Tailrace Channel.

CHAPTER - 9

MATERIAL MANAGEMENT

9.1 Design and planning of Power House, its allied structures, power channel, tailrace channel. D.L. Road Bridge and others have been contemplated to contain economy, utility and stability.

Cement

9.2.1 Ordinary Portland Cement conforming to I.S.I. 269 shall be used in cement concrete plain/reinforced mortar and grouting purpose. In case of scarcity of O.P.C., Portland Pazzolana Cement as per I.S.S. 1489 will be allowed in certain structures.

9.2.2 Cement can be received from Banjari Cement Factory located at Banjari in Rohtas district.

Reinforcement Steel

9.3.1 Reinforcement Steel complying with the requirement of the following I.S.S. shall be used.

- i. Deformed bar/high yield Strength bar as per I.S. 1786.
- ii. M.S. bars as per I.S. 226/432.

Reinforcement bars will be free from rusts, dust, loose scales, oil, paints and other coatings.

9.3.2 Steel will be of tested quality and can be procured from Sasaram district headquarters.

Structural Steel

Structural steel conforming to I.S. 226 or IS-2062 will be used in structures and for plates. The steel will be had from Bokaro Steel Plant and from Tata Steel Company, Jamshedpur.

Bricks

Bricks complying with the requirement of I.S. 1077 will be used. The quality of alluvial soil available in the adjoining area will be utilised in manufacture of class-A bricks. Bricks, therefore, will be procured locally.

9.5 **Stone Aggregates**

9.5.1 Stone aggregate are available at Karbandia Quarry site near Sasaram.

9.5.2 Aggregates shall be free from dirt, clay, lumps and other deleterious materials. It should be durable, angular, hard, dense and strong.

9.6 **Sand**

Sand of required quality and quantity or available in the river Sone at Dehir-on-Sone. It will comply with the requirement of (a) I.S. 382 for R.C. work; (b) I.S. 2116 with minimum fineness modules of 1.5 for masonry, and flooring works; (c) I.S. 1542 for cement plaster work.

9.7 **Other Materials**

Other materials required in execution of works, like industrial gases, electrodes, G.C.I./ACC sheets, etc. etc. will be procured locally from Sasaram and transported to the site.

9.8 **Estimated quantity of materials**

The estimated quantity of construction materials required for completion of civil work as in Power Channel, Power House, Tailrace channel, piers gates, etc. etc. are indicated as under :-

			<u>Quantity</u>
1.	Plain cement concrete	M ³	460
2.	Reinforced cement concrete	M ³	850
3.	Brick Masonary	M ³	500
4.	Reinforcement steel	M..T.	65
5.	Structural Steel	M.T.	56

CHAPTER – 10 **CONSTRUCTION MANAGEMENT AND MAN POWER PLANNING**

10.1 **Land Acquisition**

10.1.1 Land required for the Power Station belongs to the Water Resources Department of Government of Bihar. As soon as in-principle sanction of the project is obtained, the Water Resources Department should be approached for transfer of land required for the Power Station, Switchyard and the Colony to the Implementing Authority i.e. either B.H.P.C. or any N.G.O. Further action on the project should be taken up when the decision of land transfer is obtained.

10.2 Appointment of Consultants

10.2.1 After the in-principle sanction of the land immediate action should be taken for appointment of a Consultant for detailed design, and engineering so that no time is lost between sanction of the project and start the activities like detailed design and engineering. Before starting detailed design and engineering actual bearing capacity test at site has to be done for design of civil structure.

10.3 Contract packages

10.3.1 Contract package in this case will only be the following :-

- i. Contract for the Consultants for detailed design and engineering.
- ii. Contract for construction for civil works.
- iii. Contract for the detailed design, engineering, manufacture, supply erection, testing and commissioning of electrical and mechanical equipment.
- iv. Contract for construction of transmission line.

As this is not generally done by the plant manufacturers.

10.3.2 The turn key job for such projects may be easy to handle but once we appoint a consultant separate contracts for each of the above packages will be more economical. However, decision is left to be taken by the Implementing Authority.

10.4 Transportation of heavy equipment

- 10.4.1 The heaviest equipment in this case will be the gear box for increasing the speed for using a standard generator. This is expected to be about 10 Tones but it may depend on the different manufacturers. In the power house there will be provision for 10 tons semi-automatic over-head traveling crane. The supply of plant and equipment should be planned in such a manner that plant and equipment start arriving only after the power station building is ready with approach road and commissioning of overhead traveling crane. This will help for saving of expenditure on a storage shed for storing the plant and equipment and transport of the same to the power house building for erection work.
- 10.4.2 It may however, be necessary to build a Small storage shed for storage of instruments and other delicate instruments at site.

10.5 Approach Road

- 10.5.1 The first item that has to be looked into is repair and strengthening of the approach road with culverts in between so that there may not be difficulty in transport of the equipment at site.

10.6 Man Power Planning

- 10.6.1 This is a small Power Station and in initial construction stage the staffing pattern will be as follows :-

1.	Project Engineer (of the rank of Asst. Elec. Engineer)	01 No.
2.	Asstt. Engineer (Civil)	01 No.
3.	Junior Engineer (Civil)	01 No.
4.	Junior Engineer (Elec.)	01 No.
5.	Peons	02 Nos.
6.	Security Guards	03 Nos.

10.7 Staff requirements for operation and maintenance

- 10.7.1 Staff requirement for operation and maintenance will be as follows:-

1.	Junior Engineer (Elec.)	01 No.
2.	Operators	04 Nos.
3.	Errand Boys	04 Nos.

The Assistant Electrical Engineer working in other Power Station of the area will also remain In charge of this Power Station.

10.8 The requirement of quarters at site will be –

- | | | |
|------|--------------------------|---------|
| i. | Junior Engineers quarter | 1 No. |
| ii. | Operators quarters | 04 Nos. |
| iii. | Errand boys quarters | 04 Nos. |

These quarters should be constructed in the initial stage so that the same is used during construction work also.

10.9 A bar chart showing implementation programme of the project is enclosed as Exhibit No. 10.

CHAPTER – 11

PROJECT COST ESTIMATE

- 11.1 While framing the project cost estimate tentative design of the power channel, tailrace channel, power station building, D.L.R. bridge, approach road, etc. has been prepared and based on that the quantity of work involved has been calculated. The rates for civil works have been taken from the scheduled rates notified by Patna Division of P.W.D., Govt. of Bihar in October, 1998. The location of this power station falls in the area of the Division for which the rates have been prescribed.
- 11.2 As regards cost of the electrical and mechanical equipment the recent tender received against different works for Bihar and near about Bihar have been taken into consideration. Budgetary Rates have also been obtained from manufacturers. The scheduled rates for transmission line is as per the scheduled rates of the Bihar State Electricity Board. Budgetary offers have also been obtained for E/M equipments.

ABSTRACT OF PROJECT COST

Cost Head	Item	Cost
-----------	------	------

		(Rs. In lakhs)
100	Preliminary	5.11
102	Temporary construction and Enabling works Permanent Building works	20.60
200	Land	7.73
300	All other Civil Works	114.327
400	Electrical/Mechanical works	260.64
500	Associated Transmission System	40.00
600	Trail and Commissioning activities	1.00
	Total works	441.677
800	Overhead construction Account:	
	a. Establishment and overhead construction charges (5% of total)	22.08
	b. Audit and Accounts (1% of total works)	4.42
	c. Tools & Plants	5.00
1000	Physical contingency (3% of total works)	13.25
	Grand Total	486.43
	Say	487.00

**GENERAL ABSTRACT OF COST FOR LAND, COMMUNICATION
AND OTHER CIVIL WORKS**

SUB-HEAD		AMOUNT (RS. IN LAKH)
A.	Preliminary	5.11
B.	Land	7.73
K.	Buildings	20.60
J.	Other Civil Works:	
	i. Power Channel with Lining and S.L.R. Bridge- 15.163 lakhs ii. Power House (Civil works) 70.17 lakhs iii. Tailrace Channel With lining and S.L.R. Bridge- 14.994 Lakhs iv. D.L. Road Bridge- 10.05 Lakhs v. Miscellaneous Civil Works 1.10 lakhs vi. Communication <u>2.85 Lakhs</u> Total Rs. 114.327 lakhs	114.327
	Tools & Plants	5.00 Lakhs

DETAILS OF COST UNDER THE SUB-HEAD

A. PRELIMINARY

Sl.No.	Particulars	Amount
--------	-------------	--------

		(In Rs. Lakh)
1.	Detailed alignment, survey of Power Channel, Tailrace Channel including dug belling, fixation of pillars etc. (L.S.(50,000.00
2.	Establishing and fixing bench marks (L.S.)	1,000.00
3.	Digging test pits along canal alignment and at structure site. (L.S.)	5,000.00
4.	Bearing pressure test at Power-House sites and canal structures site and bore hole at site (L.S.)	45,000.00
5.	Charges for consultancies for detailed design and engineering (L.S.)	4,00,000.00
6.	Training of Engineers (L.S.)	10,000.00
	Total	5,11,000.00
	SAY	5.11 Lakhs

**DETAILED OF COST UNDER SUB-HEAD
B – LAND**

Sl.	Particulars	Qty.	Rate	Unit	Amount
-----	-------------	------	------	------	--------

No.					
1.	Permanent land for acquisition Headrace channel, Power House, Tailrace channel, Switch Yard etc.	3 Hect.	80000.00 (Rs. 2.0 lacs per Hect.)	Per Acre	600000.00
2.	Permanent land for construction of camps, colony	0.4 Hect.	2.00 lacs	Per Hect.	80000.00
3.	Compensation for standing crops for 3 Hect.	3 Hect.	30000.00	Per Hect.	90000.00
4.	Demarcation, dug belling and fixing of boundary pillars including joint verification L.S.				2,500.00
	TOTAL				772500.00
	SAY				7.73 Lakhs

DETAILS OF COST UNDER THE SUB-HEAD K – BUILDINGS

Residential Buildings with
Electrification, sewerage
And plumbing.

Junior Engineer	1 No.	@ 95 M ² each	95 M ²
Operator/Asstt. Controller	4 Nos.	@ 70M ² each	280 M ²
Grade IV Staff	2 Nos.	@ 40M ² each	80 M ²
Total for residential building		-	455 M ²
	@ Rs. 4,000/- M ²		18,20,000.00

Non Residential Building
(Temporary)

Stone shed	10 M x 8 M = 80 M ²	@ Rs. 3,000/-	Rs. 2,40,000.00
		Per M ²	
	Total		Rs. 20,60,000.00
	Say		Rs. 20.60 Lakhs

J-POWER PLANT/APPERTENANCES AND OTHER (CIVIL WORKS) GENERAL ABSTRACT OF COST

Sl.No.	Particulars	Cost in Rs. Lakhs	Total (Rs. In lakhs)
--------	-------------	----------------------	-------------------------

1.	Power Channel Earth Work Lining Pucca structures (S.L.R. Bridge) Total	4.033 4.47 6.66 15.163	15.163
2.	Power House	53.17	53.17
3.	Tailrace Channel Earth work Lining Pucca structure (S.L.R. Bridge) Total	1.44 6.894 6.66 14.994	14.994
4.	D.L.R. Bridge	10.05	10.05
5.	Miscellaneous		1.10
6.	Communication		2.85
	TOTAL		97.327

ESTIMATE OF COST FOR EXCAVATION OF POWER CHANNEL

Sl. No.	ITEM OF WORKS	QUANTITY	UNIT	RATE (In Rs.)	AMOUNT (In Rs.)
1.	2.	3.	4.	5.	6.
1.	Earth work in excavation in all kinds of soil within initial lead of 50M and initial lift as per drawing, specification and direction of Engineering In charge. (Page-85, Item No. 10.1.7)	3200	M ³	17.90	57280.00
2.	Earth work in filling in embankment in all kinds of soil with initial lead of 40M and initial lift of 1.5M as per specification and direction of Engineer In charge, (Page-86, Item No. 10.1.9)	14000	M ³	16.95	252555.00
3.	Extra for each additional lead of 25M of part thereof over initial lead of 30M as per specification (one number extra lead).	14000	M ³	2.00	28000.00
4.	Extra for additional lift of 1.0M or part thereof over initial lift of 1.5M as per specification (two lifts) in Item No. (1) & (2) above.	8500	M ³	2.00	17000.00
5.	Extra for hard soil 10% of Item 1 & 2	2000	M ³	2.00	4000.00

6.	Extra for hard soil 10% of Item (1)	1000	M ³	2.00	2000.00
7.	Extra for consolidation in all layers with sheep foot roller including watering as per specification.	17200	M ³	2.00	34400.00
8.	Fine dressing & surfing with 3” thick grass sods obtained within a lead of 150M and with all lifts (Page-97, Item-10.1.41.1).	3500	M ²	2.30	8050.00
	Total				403285.00
	Say				403300.00

**ESTIMATE OF COST OF LINING OF POWER CHANNEL OF SHIRKHINDA
SMALL HYDROELECTRIC PROJECT**

Sl. No.	ITEM OF WORKS	QUANTITY	UNIT	RATE (In Rs.)	AMOUNT (In Rs.)
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1.	2.	3.	4.	5.	6.
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed wall including wetting of required etc. all complete job as per direction of Engineer In charge for laying PCC precast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page96, Item-10.1.36)	2200	M ²	4.10	9020.00
2.	Providing 0. x 0.6 x 0.45 x 0.056M precast PCC (1:3:6) slab in the side slope and bed of the canal with groove of the x slab etc. set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In charge. (Page-103, Item-10.2.19)	2200	M ²	125.00	275000.00
3.	Providing P.C.C. (1:3:6) with approved quality of graded stone chips of 20mm and down size and coarse granular sand of approved quality in lug slab, cross and longitudinal sleepers for lining of canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. with all lifts and leads, removal of shuttering etc all complete job as per drawing, specification and direction of Engineer In charge.	40	M ³	2184.90	87396.00
4.	Providing intake wall with cement concrete (1:2:4) with approved quality of stone-chips 20mm down to 6mm graded and quality sand including the cost of form work, making space for under drainage pipes, fixing bolts of suitable size to fix valve on	10	Nos.	396.40	3964.00

	top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer Incharge (Page-98, Item-10.2.3).				
5.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete (Page-101, Item- 10.2.10.1).	350	M	18.60	6510.00
6.	Supplying, fitting and fixing 150mm dia vertical non-return valves complete with bolts, nuts plates etc. all complete.	10	Nos.	2500/-	25000.00
7.	Supplying, fitting and fixing 50mm dia non-return pocket valves complete with bolts, nuts etc. all complete.	20	Nos.	1500/-	30000.00
8.	Lip cutting for providing transfilter and drain all complete job including the cost and laying of sand/stone chips filter of graded all complete job as per direction of Engineer Incharge	400	M ³	25.00	10000.00
	Total				446890.00
	Say				447000.00

ESTIMATE OF COST OF CONSTRUCTION OF EACH S.L.R. BRIDGE : ONE ON POWER CHANNEL AND ONE ON TAILRACE CHANNEL OF SHIRKHINDA S.H.P.

Sl. No.	ITEM OF WORKS	QUANTITY	UNIT	RATE (In Rs.)	AMOUNT (In Rs.)
1.	2.	3.	4.	5.	6.
1.	Earth work in excavation of foundation trenches in all kinds of soils with all leads & lifts as per drawing, specification and direction of Engineer In charge.	200	M ³	21.90	4380.00
2.	P.C.C. (1:3:6) M100 in foundation of piers with stone metal 1-1/2" and down and Sone sand (washed and screened) including the cost of centering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In charge.	30.5	M ³	1432.05	43698.00
3.	Ist class brick work in C.M. (1:4) with quality Sone sand W/S in foundation and superstructure including cost of curing, as per drawing, specification and direction of Engineer In charge. (Page-113, Item-10.4.2)	130	M ³	1427.80	185614.00
4.	Earth work in filling in foundation trenches with previous soil including watering & ramming in layers as per specification and direction of Engineer In charge complete.	125	M ³	16.95	2118.75
5.	R.C.C. M150 (1:2:4) with stone chips ¾" and down and Sone sand (washed & screened) in bearing slab of piers including cost of shuttering, centering and curing etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer In charge (page-105, Item-10.3.4)	12	M ³	1737.55	20850.60
6.	Providing roller bearing with all accessories complete set for	8	Sets	500.00 each	40000.00

	girder of bridge including supply, fabrication and erection complete as per drawing, specification and direction of Engineer I/C (for class A-A loading).				
7.	R.C.C. (1:2:4) M150 with stone chips ¾” and down and Sone sand (washed and screended) in deck slab, kerb and girder including the cost of storing, shuttering, centring and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer Incharge (Page-63, Item-9.3.8).	17	M ³	1746.30	29690.50
8.	Providing expansion joint in deck slab and wearing coat with angle iron and master fillet etc. including cost of supply, filling and mixing complete.	12	M	250.00	3000.00
9.	R.C.C. (1”2”4) M150 with Stone chips ¾” and down and Sone sand W/S in precast wall including cost of shuttering, centering and curing, etc. complete but excluding cost of reinforcement.	4	M ³	1737.55	6950.20
10.	R.C.C. (1:1-1/2”:3) M200 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer In charge (Page-110, Item-10.3.1.2)	15	M ³	2094.30	31414.50
11.	Providing 4” dia G.I. drain water pipe in deck slab with perforated cap including cost of material & labour complete as per specification and direction of Engineer In charge.	12	Nos.	80.00 each	960.00
12.	Providing R.C.C. (1:2:4) M-200 railing and railing post with	30	M ³	1737.55	52126.50

	stone chips ¾" and down and Sone sand including cost of shuttering, centering and curing complete best excluding cost of reinforcement as per specification and direction of Engineer In charge.				
13.	Providing deep ruled cement in C.M. (1:3) with Sone sand (w/s) as per specification and direction of Engineer I/C on brick work exposed surface (Page-122, Item-10.5.11).	140	M ²	37.10	5194.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, beiding, placing in position and binding with 16 SWG wire complete as per drawing, specification and direction of Engineer I/C.	10	MT	17309.30	173093.00
15.	Providing Wheel guard post of R.C.C. (1:2:4) with stone chips ¾" and down and Sone Sand (w/s) 3'-6' long and 9" dia including cost of shuttering, centering, curring and cost of reinforcement all complete as per drawing, specification and direction of Western Link Canal Hydroelectric Project).	35 Nos.	Each	45.00	1575.00
16.	Dewatering, Diversion of Road and site clearance, etc.	L.S.			65000.00
	TOTAL				665665.05
	SAY				666000.00 LAKHS

*Note :- 1. Cost of one No. S.L.R. Bridge on Power channel- Rs. 6.66 lakhs
Cost of one No. S.L.R. Bridge on Tailrace Channel Rs. 6.66 lakhs.*

**ESTIMATE OF COST FOR CONSTRUCTION OF POWER HOUSE OF
SHIRKHINDA SMALL HYDROELECTRIC PROJECT
POWER HOUSE**

Sl. No.	Item of work	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
1.	Earth work in excavation of foundation trenches of power house structures service hays, retaining walls u/s & d/s aprons etc. in all kinds of soil wet & dry including all lifts & leads by manual labour as per drawing, specification and direction of Engineer I/C. (Vide Item No. 10.1.7 & 10.1.35.1 & 10.1.34.1 Page-85, 93 & 94 of Volume No. III & IV.)	2100	M ³	21.90/M ³	45990.00
2.	Earth work in filling with selected earth on back fill of abutment wing walls and foundation trenches in larger not exceeding 15 cm well watered rammed fully completed by machine at CMC to the desired percentage of maximum dry density with all lifts & leads as per drawing, specification and direction of Engineer I/C (Page-86, item-10.1.9)	4000	M ³	16.95	67800.00
3.	P.C.C.M. 7.5 (1:4:8) in foundation well below raft including cost of materials labour, mixing conveying laying, compacting and curing along with the cost of shuttering and centering all complete as per drawing, specification and direction of Engineer I/C (page-104, Item 10.3.2)	14	M ³	1268.25	17755.50
4.	Providing and laying RCC M-200 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curing, etc. all complete job excluding the cost of	400	M ³	2016.25	806500.00

	<p>reinforcement and its benging, binding, cutting & placing with position. (Vide page-108, Item 10.3.10)</p> <p>Providing and laying RCC M-15 in foundation and plinth and superstructure at all elevation with hard quartzite or trap stone chips including the cost of shuttering, curring, etc. all complete job excluding the cost of reinforcement and its benging, binding, cutting & placing with position and direction of Engineer I/C. (page-109, Item 10.3.12)</p>	80	M ³	1729.95	138236.00
5.	<p>Supply & laying for Steel reinforcement in concrete work including straighting, derusting, curing, bending & binding with 16/20 SWG annealed wire, welding top butt etc. with approved electrodes, providing cone block pins chain supports or reinforcement etc. with all materials complete as per drawing, specification and direction of Engineer In charge (Page-112, Item No. 10.3.22)</p>	30 MT	MT	17309.30	519279.00
6.	<p>Supply, fabrication, erection, fitting, fixing, painting & hosing of roof trusses including embedded parts as per drawing, specification & direction of Engineer I/C (Vide Page-18, and 126, Item No. (ii) and 5.5.28).</p>	16 MT	MT	21452.80	343240.00
7.	<p>Supply, fabrication, fitting and fixing in position pressure release pipe and M.S. grill railing, steel ladders and steel hoisting agreements chequerred plates, etc. wherever necessary as per drawing, specification and direction of Engineer In charge (page-122, Item 3.5.28 and Page-18).</p>	16 MT	MT	23352.80	373644.50

8.	Supply, erection, fitting & fixing of embedded plates 12mm thick to trash rack beams of the Power House as per drawing, specification and direction of Engineer In charge. Supply, erection, fitting & fixing of M.S. flats/rods in surroundings mat / cables for earthing etc. all complete job as per direction of Engineer In charge.	8 MT	MT	21452.80	171622.40
9.	Providing and fixing steel doors and windows fully glazed etc. as per I.S. specification and direction of Engineer In Charge (Page-120, Item 5.5.18).	55M ²	M ²	1173.10	64850.50
10.	Supplying, fitting and fixing in position 16 gauge rolling steel shutter as per I.S. specification including all railings, roller bearing, locking (double lock) arrangement as per direction of Engineer I/C. (Page-119, Item-5.5.16).	13M ²	M ²	977.70	12710.10
11.	Providing & fabricating steel purlin C.P.E. including the cost of its erection and one coat of protective painting as per specification and direction of Engineer I/C.	8 MT	MT	21452.80	174022.40
12.	Providing & fixing 10mm H.C.I. rain water down pipe including its all fittings complete as per specification and direction of Engineer I/C. (Page-56, Item-24 © and Item 12.1.45.3, Page-220)	85M	M	226.80	19278.00
13.	Providing all materials & labour for expansion joints including supplying, fixing and placing of 230mm water stops filling with asphalt in diamond shaped hole in concrete of size 125mm square & providing 1 No. 12mm galvanized standard stream pipe, pipe clump	75M ²	M ²	985.85	73938.75

	& 12 x 250mm bolts & fixing 25mm thick bituminous board in the gap of the existing joints as per drawing, specification and direction of Engineer In charge. (page-161, Item-5.10.25).				
14.	Supply & laying standard Jason of terphelt or equivalent water proofing material in double layers of tarpelt treatment in five course over exposed roofs of Power House treating the top with gravel 100 sft of surface (it will be the 6 th and last course as per I.S.S. and manufactures specification the surface with brush and cloths lights soaked in vasine oil and cost of all materials & labour complete job as per drawing, specification and direction of Engineer in charge (Page-32, Item-84).	185 M ²	M ²	950.00	175750.00
15.	Providing and laying 25mm thick mosaic tile flooring/glazed tiles as per specification and direction of Engineer I/C (page-130, Item-5.6.15 ©.	185M ²	M ²	398.55	73731.75
16.	Providing & laying wall finishing work including colouring etc.	L.S.			240000.00
17.	Providing & painting steel structure, windows doors and etc.	L.S.			25000.00
18.	Providing & fixing water supply and sanitary installation work.	L.S.			40000.00
19.	Providing & fixing electrification works.	L.S.			40000.00
20.	Site clearance, leveling and dressing.	L.S.			12000.00
21.	Dewatering during construction	L.S.			1600000.00
22.	Providing & laying precast slab R.C.C. (M-150) as per design and drawing all complete job. (Over roof Trusses).	L.S.			130000.00

23.	Providing and laying foam concrete complete job over the precast slab as per design and instruction of Engineer In charge.	L.S.			180000.00
24.	Providing & laying of 'ESCAPE' & shifting of the existing village channel all complete job.	L.S.			1500000.00
	TOTAL				7016971.20
	SAY		7017000.00 LAKHS		

ESTIMATE OF COST OF EXCAVATION OF TAILRACE CHANNEL

Sl. No.	ITEM OF WORK	QTY.	UNIT	RATE	AMOUNT
1.	Earth work in excavation in all kinds of soil, within initial lead of 50m and initial lift of 1.5m as per drawing, specification and direction of Engineer In charge .	5800	M ³	17.90	103820.00
2.	Extra for lead of 25M or part thereof over initial lead of 30M as per specification (one extra lead).	5800	M ³	2.00	11600.00
3.	Extra for each lift of 1.0M or part thereof over the initial lift of 1.5M per specification.	5800	M ³	2.00	11600.00
4.	Extra for wet soil	1000	M ³	2.00	2000.00
5.	Extra for consolidation of earth in 225mm layers with power roller including watering and ramming as per specification.	5800	M ³	2.00	11600.00
6.	Fine dressing and turfing with 3” thick grass sods obtained within a lead of 60 M.	1300	M ²	2.30	2990.00
	TOTAL				143610.00
	SAY				1.44 Lakhs

**ESTIMATE OF COST OF LINING OF TAILRACE CHANNEL OF SHIRKHINDA
SMALL HYDROELECTRIC PROJECT**

Sl. No.	ITEM OF WORK	QTY.	UNIT	RATE	AMOUNT
1.	Fine dressing the inside slope and bed of the canal with compacted fully and rammed well including wetting of required etc. all complete job as per direction of Engineer In charge for laying PCC precast concrete slab over the finished surface of canal inside slope and bed all complete job as per specification (Page-96, Item-10.1.36)	3500	M ³	4.10	14350.00
2.	Providing 0.6 x 0.45 x 0.056M precast PCC (1:3:6) slab in the side slope and bed of the canal with groove of the slab etc. set in cement mortar (1:3) and flush pointing (1:2) including cost of all materials carriage, royalty, labours all complete job as per specification and direction of Engineer In charge. (page-103, Item-10.2.19)	2800	M ²	125.00	350000.00
3.	Providing intake walls with cement concrete (1:2:4) with approved quality of stone-chips 20mm down to 6mm graded and quality sand including the cost of form work, making space bolts of suitable size to fix valve on top, curing and placing in position, mixing cement concrete in mixer all complete job including royalty all taxes with cost of all labour and materials as per specification and direction of Engineer In charge. (Page-98, Item 10.2.3)	16	Nos.	396.40	6342.40`
4.	Providing 10mm thick vertical joints in lining at suitable interval filled with bituminous materials of approved quality including cost of materials all complete. (Page-101, Item-10.2.10.1).	600	M	18.60	11160.00
5.	Supplying, fitting and fixing 150mm dia vertical non return valves complete with bolts, nuts plates etc all complete.	14	Nos	2500.00	35000.00

6.	Supplying, fitting and fixing 5mm dia non return pocket valve complete with bolts, nuts etc. all complete.	30	Nos.	1500.00	45000.00
7.	Lip cutting for providing transverse filter and drain all complete job including the cost and laying of sand/stone chips filter of grade all complete job as per direction of Engineer In Charge	700	M ³	25.00	17500.00
8.	Providing & construction of sloping apron of concrete as per design, drawing & instruction of Engineer-in-Charge, all complete job.	L.S.			210000.00
	TOTAL				686352.40
	SAY		689400.00 LAKHS		

**ESTIMATE OF COST OF CONSTRUCTION OF D.L.R. BRIDGE-CUM-H/R AT 140
METRES OF POWER CHANNEL OF SHIRKHINDA HYDROELECTRIC
PROJECT**

Sl. No.	ITEM OF WORK	QTY.	UNIT	RATE	AMOUNT
1.	2.	3.	4.	5.	6.
1.	Earth work in excavation of foundation trenches in all kind of soils with all leads & lifts as per drawing, specification and direction of Engineer In charge.	270	M ³	21.90	5913.00
2.	P.C.C. (1:3:6) M100 in foundation of piers with stone metal 1-1/2" & down & Sone sand (washed & screened) including the cost of centering, shuttering and curing etc. complete job as per drawing, specification and direction of Engineer In charge.	38.10	M ³	1432.05	54622.50
3.	Ist class brick work in CM (1:4) with quality Sone sand w/s in foundation and super structure including cost of curing, as per drawing, specification and direction of Engineer In charge.	180	M ³	1427.80	257004.00
4.	Earth work in filling in foundation trenches with previous soil including watering & ramming in layers as per specification and direction of Engineer In charge complete.	180	M ³	16.95	3051.00
5.	RCC M150 (1:2:4) with stone chips ¾" and down and Sone sand (washed and screened in bearing slab of piers including cost of shuttering, centering and curing etc. but excluding the cost of reinforcement as per drawing, specification and direction of Engineer In charge. (Page-105, Item-10.3.4)	13	M ³	1737.55	22588.15
6.	Providing roller bearing with all accessories complete set for girder of bridge including supply, fabrication and erection complete as per	8	Sets	5000.00	40000.00

	drawing, specification and direction of Engineer In charge (for Class –A-A loading).				
7.	R.C.C. (1:2:4) M-150 with stone chips ¾” and down and Sone sand (washed and screened) in deck slab, kerb and girder including the cost of storing, shuttering, centring and curing complete but excluding the cost of reinforcement as per specification and direction of Engineer In charge (Page-63, Item-9.3.8).	22	M ³	1746.30	38418.60
8.	Providing expansion joint in deck slab & weasing cost with angle iron and master fillet etc. including cost of supply, filling and mixing complete.	14	M	250.00	3500.00
9.	R.C.C. (1:2:4) M 150 with stone chips ¾” and down and Sone sand W/S in hreast wall including cost of shuttering, centring and curing etc. complete but excluding cost of reinforcement.	5	M ³	1737.55	8687.75
10.	R.C.C. (1:1-1/2%3) M-200 with stone chips ¾” and down and Sone sand in wearing coat as per drawing, specification and direction of Engineer In charge.	20	M ³	2094.30	41886.00
11.	Providing 4” dia G.I. drain water pipe in deck slab with perforated cap including cost of material and labour complete as per specification and direction of Engineer In charge.	16 Nos.	Each	80.00	1280.00
12.	Providing R.C.C. (1:2:4) M-150 railing and railing post with stone chips ¾” and down and Sone sand including cost of shuttering, centering and curing complete best excluding cost of reinforcement as per specification and direction of Engineer In charge.	35	M ³	1737.55	60814.25

13.	Providing deep ruled cement pointing in C.M. (1:3) with Sone sand (w/s) as per specification and direction of Engineer In charge on brick work exposed surface. (Page-122, Item-10.5.11).	180	M ²	37.10	6678.00
14.	Providing reinforcement in R.C.C. work including cost of cutting, bending, placing in position and binding with 16 SWG wire complete as per drawing, specification and direction of Engineer In charge.	12	MT	17309.30	207711.60
15.	Providing wheel guard post of R.C.C. (1:2:4) with stone chips ¾” and down and Sone sand (w/s) 3’-6” long and 9” dia including cost of shuttering, centering, curing and cost of reinforcement all complete as per drawing, specification and direction of Engineer I/C (Vide Sone Western Link Canal Hydroelectric Project).	45 Nos.	Each	45.00	2025.00
16.	Dewatering, Diversion of Road and site clearance, etc.	L.S.			250000.00
	TOTAL				1004179.80
	SAY				10.05 LAKHS

DETAILS OF COST UNDER THE SUB-HEAD**MISCELLANEOUS**

Sl.No.	Particulars	Amount in Rs. Lakhs.
1.	Capital cost of Electrification of colony (L.S.) Water supply over head tank (L.S.) Sewage and drains (L.S.)	0.20 0.50 0.20
2.	OTHER ITEMS Technical record photographic Records (L.S.) ii. Tree plantation (L.S.)	0.10 0.10
	TOTAL	1.10 lakhs

DETAILS OF COST UNDER THE SUB-HEAD
COMMUNICATION

Sl. No.	Particulars	Qty.	Rate	Amount (In Lakhs)
1.	Cost of improving the existing road up to Power House site. (widening & metal ling)	1.5 km.	1.5 lac per km.	2.25 lakhs
2.	Construction of colony road	L.S.		0.60 lakhs
	TOTAL			2.85 Lakhs

DETAILS OF COST UNDER THE SUB-HEAD

E – SPECIAL TOOLS AND PLANTS

One Number Jeep (Inspection Vehicle)

@ Rs. 4.0 lakhs each	Rs.	4.00	Lakhs
Other special tools	Rs.	1.00	Lakhs
		=====	
TOTAL	RS.	5.00	Lakhs

ESTIMATE FOR ELECTRICAL & MECHANICAL EQUIPMENT INCLUDING EVACUATION SYSTEM

A. ELECTRICAL & MECHANICAL EQUIPMENTS

Sl. No.	Particulars	Quantity	Unit Price Ex-works (in lacs)	Total Price (in lacs)
1.	Vertical Semi-Kaplan, Turbine with Syphon Intake	2	32.50	65.00
2.	Governing System	2	10.00	20.00
3.	Speed Increaser	2	11.00	22.00
4.	E.O.T. Crange-10T Capacity	1	5.00	5.00
5.	Generator	2	18.00	36.00
6.	Power Transformer	1	7.00	7.00
7.	Battery with charging system	1 Set	3.00	3.00
8.	Switchboard Panels for Turbine, Generator, Auxiliary, etc.	L.S.	20.00	20.00
9.	Switch-Yard	L.S.	5.00	5.00
10.	Cabling/Earthing/Lighting/Ventilation/Firefighting	L.S.	12.00	12.00
11.	30 KVA diesel Generator with Control Panel and emergency Supply System	L.S.	2.00	2.00
12.	Tools & Plants	L.S.	1.00	1.00
13.	Spares for two O & M	L.S.	6.00	6.00
	TOTAL			204.48
14.	Excise duty 12%			24.48
	TOTAL			228.48
15.	C.S.T. 4% Central Sales Tax			8.16
16.	Transport and transit insurance & insurance during erection			4.00
17.	Miscellaneous overhead charges	L.S.		3.00
18.	Cost of erection, testing and commissioning of equipment covered from Sl. 1 to 11 above	L.S.		17.00
	GRAND TOTAL			260.64
B.	COST OF POWER EVACUATION.			
1.	Cost of Transmission Line 11KV one Rabbit Conductor 20 KM in length	L.S.		40.00
C.	TRIAL & COMMISSIONING ACTIVITIES			
	1. Cost of lubricant and other consumables	L.S.		1.00

CHAPTER - 12

ESTIMATED COST OF GENERATION

Sl.No.	Particulars	
1.	Installed Capacity	1000 KW
2.	Cost of the Project	Rs. 54300000.00
3.	Cost/KW (2/1)	Rs. 54300.00
4.	Interest on capital during construction	Rs. 5430000.00
5.	Total sum at large (2+4)	Rs. 59730000.00
6.	Cost/KW including interest during construction (5/1)	Rs. 59730.00
7.	Annual generation	6864400 KWh
8.	Auxiliary consumption (@ 0.5%)	34322 KWH
9.	Units sent out/year (7-8)	6830078 KWH
10.	Fixed charges (a+b+c)	Rs. 7602000.00
	Interest charges @ 10% of 5 Rs. 59,73,000/- O & M Charges @ 1% of 2 Rs. 5,43,000/- Depreciation @ 2.0% of 2 Rs. 10,86,000/-	
11.	Total fixed and running charges per annum (10)	Rs. 7602000.00
12.	Cost/KWh generated 11/7	Rs. 1.10
13.	Return on capital 16% and general reserve @ ½% i.e. 16.5% of project cost (0.165x2)	Rs. 8959500.00
14.	Profit/Unit sent out 13/9	Rs. 1.50
15.	Cost of sale of energy for sending out	Rs. 1.19 + Rs. 1.50 = 2.69

Note: Interest during construction is calculated assuming total duration of construction of the project as 24 months and an interest rate of 10% as per formula:

$$I = \frac{PNR}{2 \times 12 \times 100}$$

Where, P= Project cost;
N= Total duration of the project in months;
R= Interest rate in %
I= Interest during construction.

CHAPTER - 13
PAY BACK PERIOD

(IN RS.)

1. INVESTMENT	1.1 Project capital cost Interest during construction Total Investment	48700000 487000 49187000
2. REVENUE DURING OPERATING 2.1 Annual Revenue Generated	Units sent out/year KWh (Refer Item 9 of calculation of cost of generation) Selling price of Power paise/ KWh (Refer Item 15 of Calculation of cost of Generation) Total revenue generated: a x b 100	53271600.4 Kwh 269 Paise 14330061.00
2.2 Annual Generation Costs Incurred	Annual fixed charges excluding depreciation and interest charges (Refer Item 10(b) of calculation of cost of generation.	487000.00
2.3 Net Annual revenue generation (2:1 - 2.2)		13843061.00
3.0 Pay-back period (1.3/2.3)		3.55 years.

BENEFIT COST RATIO

A. Annual Expenses

1.	O & M	Rs.	487000.00
2.	Depreciation charges @ 2%	Rs.	974000.00
3.	Interest Charges	Rs.	4918700.00
4.	Total annual expenses	Rs.	6379700.00

B. Annual Revenue Rs. 14330061.00

C. Benefit cost ratio (B/A)
$$\frac{14330061.00}{6379700} = 2.24$$

CHAPTER - 14.
FINANCIAL STATEMENT
CAPITAL EXPENDITURE DURING FIRST YEAR – Rs. 150.00 LAKHS
CAPITAL EXPENDITURE DURING SECOND YEAR Rs. 337.00 LAKHS

Year	Capital outlay (Rs. Lakhs)	Expenditure during the year in Rs. Lakhs	Simple interest on Col.2 @ 10% + on Col.3 @ 5% Rs. In Lakhs	Depreciation @ 2% on Col.2 in Rs. Lakhs	O & M expenses @ 1% on Col. 2 Rs. In lakhs	Total working expenses in lakhs (5+6)	Unit generated in lakhs KWH	Unit sent out in lakhs KWH	Anticipated revenue @ 241 P/KWh in lakhs	Net revenue (10-7)	Surplus (+) or deficit (-) after meeting interest (11-4)	Accumulated surplus (+) or deficit (-) in lakhs (Col. 12+ previous year of Col.13)	Sum at large at the end of the year Col. 2+3 – 13	% Return 12/14 x 100
01.	02.	03.	04.	05.	06.	07.	08.	09.	10.	11.	12.	13.	14.	15.
1.	-	150.00	7.50	-	-	-	-	-	-	-	-7.50	-7.50	157.50	-4.76
2.	150.00	337.00	31.85	3.00	1.50	4.50	-	-	-	-4.50	-36.35	-43.85	530.85	-6.84
3.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	36.14	450.86	17.74
4.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	116.13	370.87	21.56
5.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	196.12	290.88	27.49
6.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	276.11	210.89	37.92
7.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	356.10	130.90	61.10
8.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	436.09	50.91	157.12
9.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	516.08	-29.08	-
10.	487.00	-	48.70	9.74	4.87	14.61	53.53	53.27	143.30	128.69	79.99	596.07	-109.07	-

CHAPTER - 15.
ENVIRONMENT AND ECOLOGICAL ASPECTS

QUESTIONNAIRE ISSUED BY THE DEPARTMENT OF ENVIRONMENT
FOR RIVER VALLEY PROJECTS

1.0 Detailed basic information affecting the environment :

1.01	Pre-dominant existing land use pattern (agricultural land reserve and the forests etc.) in project area upto 10 km. upstream.	Comprises mostly agricultural land owned by W.R. Deptt. of Govt. of Bihar.
1.02	Break up of submerged area total submerged area (1% hectares)	The project does not envisage any reservoir and hence question of submergence does not arise. A bypass channel will be constructed parallel to Buxar Canal of Sone Canal System.
	Forest land Cultivated land Shrubs & fallow Rocky outcrop Wet land Open water Other use	NIL
1.03	a. Forest type in catchment and submerged areas. b. Extent and nature of forest to be cut for construction of roads, colony and other appurtenant works.	N.A. NIL
1.04	Duration of project's construction	24 Months
1.05	Estimated peak labour strength	Skilled - 10 Unskilled-50 Labour from local village to be recruited.
1.06	Population density in the area per sq. km.	None
1.07	Number of village and population to be displaced No. of villages Size of village	

	<p>Affected families in each village ST/SC Other</p> <p>Occupation of the affected people</p> <p>Agriculture Industrial labour Forest based</p> <p>Owner cultivators by size of land holdings</p> <p>Marginal (1.0 hect.) Small (1.02.5 hect.) Medium (2.55.0 hect.) Large (Over 5.0 hect.)</p>	<p>Does not arise</p> <p>Does not arise.</p> <p>Does not arise.</p>
1.08	<p>Resettlement Is a rehabilitation committee being constituted ?</p> <p>Existing guidelines, if any for compensation.</p> <p>Level of compensation in cash and kind.</p> <p>Number of out families likely to be settled in new settlement.</p> <p>Size of proposed new settlement</p> <p>Layout plans/master plans for new settlement</p> <p>Distance of new settlement from the present habitant</p>	<p>As these will be no displacement no resettlement is needed.</p> <p>Does not arise.</p> <p>Does not arise.</p> <p>-Do-</p> <p>-Do-</p> <p>-Do-</p> <p>-Do-</p>
1.09	<p>Number and type of facilities (e.g. School, Post Office, Bank, Panchayat Ghat, Police Station approach road, Drainage and water supply etc.) proposed to be provided.</p>	<p>One approach road up to site will be improved. Other facilities as available locally will be utilised.</p>
1.10	<p>Is the affected area covered by development programmes like IED, SED, draught prone area tribal development etc.</p>	<p>No.</p>
1.11	<p>Any proposal to provide or create</p>	<p>Does not arise as there will be no outeets.</p>

	employment for outtees nature and quantum of employment to be provided.	
1.12	What is the expected rate of siltation ? Is down stream area subject to flooding ?	Not applicable. No
1.13	Wind at dam site (diagram giving statistical information concerning the direction and speed of the wind at the site).	Not applicable.
1.14	Hurricane, tornadoes, cyclones, Frequency of occurrence Wind velocity (Average)	Not applicable
1.15	Plan of area on the reservoir periphery subject to erosion, slides and slips.	Not applicable.
1.16	The depth of ground water Table Maximum Minimum Quality of ground water portable/non-portable/fit for irrigation industry.	7 M 20 M Potable
1.17	Present ground water use pattern in the command area under irrigation.	The command area is surface irrigated by canal.
1.18	Based on the experience of similar projects in the area, specify the interaction between the altered surface water patterns and underground aquifers and their recharge	Not Applicable.
2.00	<u>Environmental status</u> a. Indicate known pollution sources in the region (indicate the industrial like chemicals, textiles and other thermal power unit, mining operations, etc.)	Not such industry near Project site.
2.02	Indicate the industrial and other	No such plan.

	development project likely to be taken up in the area during the next five to ten years.	
2.03	<p>a. Does the area support economically viable aquatic life, fish, crocodiles ?</p> <p>b. Are there any fish/crocodile breeding ground in the river tributaries in the submergence?</p>	<p>Not applicable.</p> <p>No</p>
2.04	Does the site contain a wild life (including birds) habitat, breeding area, feeding area, migration route including the number of wild life available in the area.	No.
2.05	Is the site a potentiabile wild life sanctuary ?	No
2.06	Specify any rare or endangered species of flora and fauna found in the effected area alongwith their approximate number and measures to salvage/rehabilitate them.	No
2.07	Is the area a tourise resort ?	No
2.08	Are any monuments/sites of cultural, historical, religious archeological or recreational importance including wild life sanctuaries, national parks etc. likely to be affected by the proposed project ? If so details thereof.	No
2.09	Does the proposed area suffer from endemic health problems due to water/soil borne diseases.	No
3.00	<u>ENVIRONMENTAL IMPACTS</u>	
3.01	What measures are planned to develop the site to enhance its aesthetic aspects (i.e. recreation and water sport facilities and picnic sites, etc.)	Some plantation near the power station will be done.
3.02	Will the project help in flood control, reduction or even eradication of flood havor down steam ?	Not applicable.

3.03	Are any changes in water salinity expected ? If yes, give details of proposed measures to counter-act this	No
3.04	Are problems of water-logging envisaged in the command area ? If so, give details of proposed steps to combat the problem.	No
3.05	Will the reservoir be used for fisheries development, fish culture as well as fish breeding, crocodile farming etc ? If yes, give details thereof.	There is no reservoir envisaged.
3.06	Will fish ladders/life and like arrangements be provided to allow movement of important migratory fish population ?	Not applicable.
3.07	Measures proposed to prevent grazing the cultivation on reservoir slopes to avoid erosion and premature silting up the impoundment.	Not applicable.
3.08	Will any important natural resources (minerals, coal, timber, etc.) be lost or their use precluded because of the presence or operation of the project ? If yes, specify the resources estimated loss.	No
3.09	What is potential loss in aquatic production on site up and down stream ? Fish and other useful animals and plants.	NIL
3.10	Will the formation and use of the water body result in the introduction or enhancement of water borne diseases ?	Not applicable
3.11	Will the impounded reservoir lead to :- I. Noxious aquatic weeds like salinia, water, Hyacinth etc.	No

	II. Intermittent host (Vector) like snails, mosquitoes etc.	No
3.12	How will aquatic weeds be controlled in submerged area as to provide an improved habitat as for fishery exploitations	Not applicable.
3.13	Will the project induce adverse climatologically changes (regarding temperature, humidity, wind and precipitation including modifications to macro and micro climate) ?	No
3.14	What impact is expected on geological factors (e.g. seismic impact or reservoir loading) ?	No impact
3.15	Indicate the magnitude of impact due to population pressure on :- I. Felling of trees for firewood II. Forest fires III. Over grazing leading to depletion of the pastures: IV. Visual pollution and damage to scenic values	Nil Nil Nil Nil
3.16	What arrangements are being made I. To meet fuel requirements of the labour force during construction period to prevent indiscriminate felling of trees for firewood? II. Fore compensatory afforestation? III. To enforce anticipating laws IV. To control flow of sediments and pollutants due to fertilizer and pesticide run-off for cultivated area V. For restoration of land in construction areas (Filling, grading, and reforestation etc.) to prevent erosion.	Local labour will be used for construction proposes. Not applicable. Not applicable. Not applicable. This situation will normally not arise.

	VI. For soil conservation in the catchment ?	
	VII. For soil conservation in the catchment ?	Not applicable.
4.00	Cost of Environmental studies and project Management.	
4.01	Provision for environmental studies/surveys need for this project.	Not applicable.
4.02	Cost of proposed remedial and mitigative measures environment.	Not applicable.
4.03	Has the cost of environmental studies/protection measures been considered in the cost benefit analysis of the project.	Not applicable.

**Annexure C – Contract Agreement of 4 Plants
(Arwal, Sebari, Shirkhinda and Belsar)**

ANNEXURE – C

**Contract Agreement of 4 Plants (Arwal,
Sebari, Shirkhinda, and Belsar)**

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISES)

2ND FLOOR, SONE BHAWAN
PATNA

Certified Copy

Keelathak
30/8/04

Deputy Chief Engineer
Bihaar State Hydro-Electric
Power Corporation Ltd.
Patna

AGREEMENT NO.- 02/Civil/2004-2005 dated - 28.08.2004

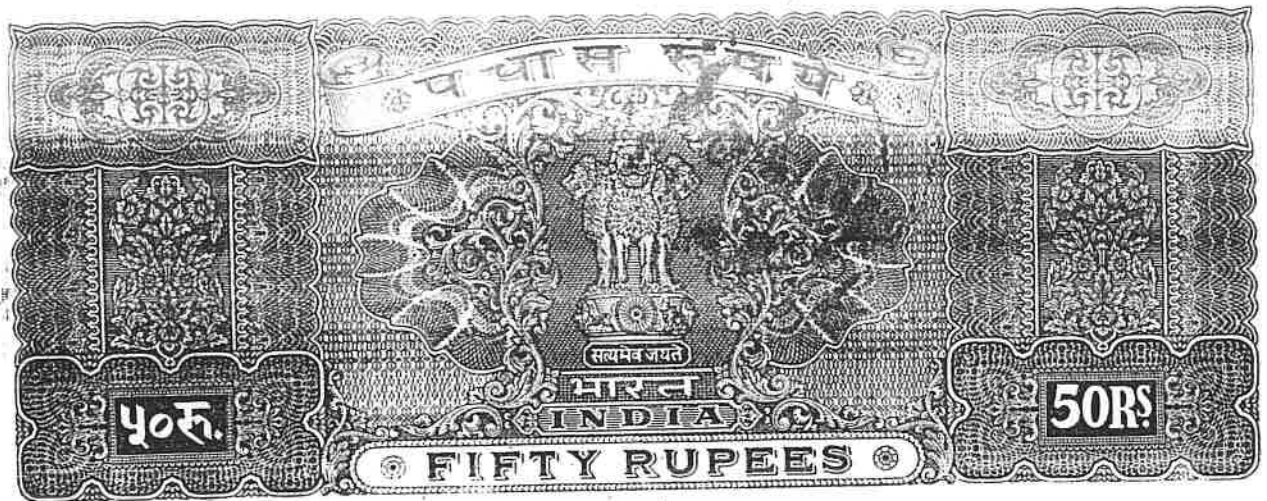
CONTRACT FOR
SURVEY, DESIGN, DRAWING, CONSTRUCTION
OF CIVIL WORKS OF POWER HOUSE AND
ALLIED STRUCTURES

FOR
ARWAL SMALL HYDEL PROJECT
(1 x 500 KW)

Hony
Chief Engineer (Elect.)
Bihaar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BLOCK - ARWAL, DIST.-ARWAL

50 Rs.



**BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
(A GOVT. OF BIHAR ENTERPRISES)**

SECOND FLOOR, SONE BHAWAN, PATNA

AGREEMENT NO. : 02/civil/2004-05 DATED : 28-08-2004.

This agreement made this 28th day of August, two thousand and four between Bihar State Hydroelectric Power Corporation Limited, Patna (hereinafter referred to as 'Purchaser' which expression shall unless repugnant to the context or meaning thereof, includes its successors, administrators and assigns) of the one part and M/s MOTHER INDIA CONSTRUCTION PVT. LTD. having its registered office at P. O. – Bikram District – PATNA hereinafter referred to as the 'Contractor' which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) of the other part.

Where as the purchaser is desirous of setting up of 1 x 500 (KW) S.H.P. at ARWAL in the District of ARWAL has issued letter of Intent vide letter no. 2054 dated 12.06.04 for the execution of the Civil works of the Project at a total cost of Rs. 1,40,53,137/- (Rupees One crore forty lac fifty three thousand one hundred thirty seven) only (hereinafter called the contract price) as per terms and conditions mentioned below :

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-I

Mother India Construction Pvt. Ltd.
Handwritten signature
(DIRECTOR)

Handwritten signature
28/8/04
(K. K. Pathak)
Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

CONTENT

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5.	Technical Specification	IV - 1 to IV - 66
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7.	Drawings	
8.	Annexure	

Mon
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Mother India (P) Ltd.

Ge
CRO

K. K. Pathak
28/8/04
(K. K. Pathak)
Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

1. **Scope of work :**

The scope of this work is limited to Pre construction detailed survey of Power Channel, tailrace channel, power house, soil bearing test, fixing of bench mark, detailed engineering design, collection of hydrological and other data, digging test pits, Earth Resistivity test, L. section and cross section of canal, contour survey and preparation of contour map covering entire project area and plain table survey, fixation of pillars, dog belling, water and soil test (Alterberg's limit and other soil indices), soil bearing pressure test and construction of power house, Tail race channel, Power Channel and one no. SLR Bridge on Power Channel and on tail race channel each.

2. **PRICE :**

Sl. No.	Item of work	Amount
i.	Construction of Power house (Including cost of preliminary work)	Rs. 74,17,500/-
ii.	Construction of Lined Tailrace channel.	Rs. 20,58,400/-
iii.	Construction of DLR Bridge on power channel.	Rs. 11,15,675/-
iv.	Construction of S.L.R. Bridge on Power channel.	Rs. 8,80,180/-
v.	Construction of lined power channel	Rs. 17,55,550/-
vi.	Construction of S.L.R. Bridge on tailrace channel.	Rs. 8,96,450/-
Total : Rs.		1,41,23,755/-
Rebate (-) 0.5% : Rs.		70,618/-
Grand Total :		1,40,53,137/-
(One crore fourty lac fifty three thousand one hundred thirty seven only)		

4. That in consideration of the payment of Rs. 1,40,53,137/- (One crore fourty lac fifty three thousand one hundred thirty seven) only to be made by the purchaser the contractor shall execute the work and shall do and perform all works, remedy defects and do things specified in the contract mentioned or described therein, within and at the time prescribed and in the manner and subject to the terms and conditions stipulated and mentioned hereinafter and more particularly described under :
5. The following document shall be deemed to form and be read and construed as part of the agreement (hereinafter collectively referred to as contract document).

Other India Construction (P) Ltd.

Keerpal Singh
28/6/09
(K. K. Pathak)
Deputy Chief Engineer
Bihar State Hydro Electric
Power Corporation Ltd

- i. Notice Inviting Tender No. 05/Civil/2003-04 dated 11.11.03
- ii. Tender Documents complete with all terms and conditions and Technical specifications.
- iii. Special conditions of contract. (Section-I)
- iv. Price schedule and Bill of quantity. (Section-II)
- v. LOI issued vide BHPC letter No. 2054 dt. 12.06.04.
- vi. Detailed Project Report (DPR).
- vii. General Terms and Conditions of the BHPC.
- viii. Correspondence between BHPC and the Tenderer.
 - a. BHPC Letter No. 1780 dated 20.05.04
 - b. M/s Mother India Const. Pvt. Ltd. Letter No. dated 22.05.04
 - c. BHPC letter No. 2054 dated 12.06.04
 - d. BHPC letter no. 1869 dated 29.05.04
 - e. M/s Mother India Const. letter no. 312 dated 15.07.04
6. And whereas the contractor has accepted the L.O.I. under reference as stated in the preceding paragraphs on the terms and subject to the conditions agreed/conveyed in subsequent discussions and correspondences including those mentioned in para – 5 above.

In witness whereof the parties hereto have signed this agreement and put their seal at Patna on the dates, months and year mentioned here-in-above.

NAME & SIGNATURE OF WITNESS

1. Signature

Name & Address *ANIL KUMAR*
Asst. Engineer, B.H.P.C. (Signature of Contractor)

2. Signature

Name & Address *VIDYAKANT AMAR*
Boring Road Patna

1. Signature

Name & Address *28/8/04*
Bidyut Kr. Singh
J.E. (Civil)
BHPC, Patna.

2. Signature

Name & Address *28/8/04*
(A.K.D. Verma)
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
- Bhawan, Patna

Keelkhar
28/8/04
(Signature of Purchaser)
(K. K. Pathak)

Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

Mother India Construction Pvt. Ltd.
Geetha
DIRECTOR

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISE)

2ND FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. - 0.5/Elect./06-07 dated - 12/7/06

CONTRACT FOR

**SUPPLY, ERECTION, TESTING &
COMMISSIONING OF HYDRO
GENERATING SETS COMPLETE
WITH AUXILIARIES**

FOR

ARWAL S. H. P.
(1 x 500 KW)

For **Shahabad Engineers Pvt. Ltd.**

[Signature]
Director.

[Signature]
Chief Engineer

Chief Engineer
Bihar State Hydroelectric Power Corporation Ltd.

[Signature]
Chief Engineer

DIST. - ARWAL (BIHAR)



बिहार BIHAR

358514

AGREEMENT

THIS AGREEMENT is made this 12 day of July 2006 BETWEEN Bihar State Hydro Electric Power Corporation Limited, Patna having its registered office at Sone Bhawan, Bir Chand Patel Marg, Patna 800 001 (hereinafter referred to as 'Purchaser' which expression shall, unless repugnant to the context and meaning thereof include its successors, administrators and assigns) of the one part AND M/s Shahabad Engineers Private Limited, a private limited company incorporated under the provisions of the Company's Act, 1956 having its registered office at Road no. 17, Jawahar Nagar, Mango, Jamshedpur - 832 110 (hereinafter referred to as 'Contractor' which expression shall unless repugnant to the context and meaning thereof include its successors, administrators and assigns) of the other part.

2. WHEREAS the Purchaser is desirous of setting up ARWAL SHP (1x500kw) at Arwal in Arwal district of Bihar and has accepted the offer of Contractor for the execution of Electrical & mechanical work only on Turnkey basis which work included Elec-Mech service, supply installation, testing and commissioning of complete Electrical/Mechanical equipment and auxiliaries

[Signature]
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Signature]
M/s Shahabad Engineers Pvt. Ltd.

Director.

[Signature]
Chief Engineer
Bihar State Hydroelectric Power Corporation Ltd.

27 SEP 2025
कोषागार पदाधिकारी
(बैशाखी)

५२

41.65 1-10-05 621
शा.ए.१२ डे.जि.सि. ५०.२
मानव संसाधन विभाग

हस्ताक्षर
प्रतिष्ठान कोषागार, (कोषागार) ५०x२ (१०)
५२



बिहार BIHAR

358515

as per schedule of requirement/DPR/ requirement in relevant sections of tender book against NIT No. 08/Elec/2003-04 dated 18.11.03 along with one year operation and maintenance of SHP and its evacuation at a total cost of Rs. 3,19,25,200.00 (Rupees Three Crore, Nineteen Lakh Twenty Five Thousand Two Hundred) only exclusive of taxes and duties as applicable as per actual.

NOW THIS AGREEMENT, in addition to all other terms and conditions specified and detailed above, INCLUDE the following terms and conditions :-

1. That in this agreement the words and expressions shall have the same meaning as are assigned to them in the context of tender and other documents herein after referred to.
2. That the following documents shall be deemed to form and be read and construed as part of the agreement, namely :-
 - i. Purchaser NIT No. 08/Elect/2003-04 dated 18.11.03.
 - ii. Contractor offer letter no. SE/AKS/60/04 dated 29.6.04.
 - iii. Purchaser letter no. 2619 dated 14.07.04
 - iv. M/s HPP. Letter no. AHEC/C-195/V/3588 dated 27.07.04

[Signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

For Shahabad Engineers Pvt. Ltd.

[Signature]
 Director.

[Signature]
 Chief Engineer
 Bihar State Hydroelectric Power Corporation Ltd.

[Signature]

27 SEP 2005
कोषागार पदाधिकारी
(वैशाली)

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4166-1-10-05

4165 के अग्र

रक्षक अहमद रॉ


रक्षक अहमद रॉ

रक्षक अहमद रॉ


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- v. Purchaser letter no. 2721 dated 22.07.2004.
- vi. AHEC, Roorkee letter no. -- AHEC/C-195/V/3568 dated 27.07.04
- vii. Contractor letter no. SEPL/DHR/81/04-05 dated 26.07.2004
- viii. AHEC, Roorkee letter no. AHEC/C-195/V/3637 dated 30.07.04
- ix. Purchaser letter no. 2869 dated 03.08.2004
- x. Purchaser letter no. 2919 dated 07.08.2004
- xi. Contractor letter no. SE/AKS/83/2004 dated 10.08.2004
- xii. Contractor letter no. SEPL/DHR/100/04-05 dated 27.08.04
- xiii. AHEC letter no. AHEC/C-195/V/4063 dated 27.08.2004
- xiv. Purchaser letter no. 3334 dated 11.09.2004
- xv. Contractor letter no. SE/EM/Arwal/01/04 dated 13.09.2004
- xvi. Contractor Revised Price offer letter no. SE/AKS//86/2004 dated 10.08.2004
- xvii. AHEC letter no. AHEC/C-279/V/4843 dated 15.10.2004
- xviii. Purchaser letter no. 51 dated 13.01.2005.
- xix. Purchaser letter no. 1071 dated 18.05.2005.
- xx. Purchaser letter no. 1123 dated 31.05.2005.
- xxi. Purchaser letter no. 1224 dated 31.05.2005.
- xxii. Purchaser letter no. 1224 dated 31.05.2005.
- xxiii. Purchaser letter no. 1227 dated 31.05.2005.
- xxiv. Contractor letter no. SE/AKS/P/040/2005 dated 04.06.2005.
- xxv. Purchaser letter no. 1628 dated 01.07.2005.
- xxvi. Contractor letter no. Camp, Patna dated 01.07.2005.
- xxvii. Purchaser letter of intent no. 2236 dated 27.08.2005.
- xxviii. Contractor Acceptance letter no. Camp Patna dated 29.08.2005.
- xxix. Contractor letter no. Camp, Patna dated 14.11.2005.
- xxx. Contractor letter no. SE/AKS/113/2005 dated 23.09.2005.
- xxxi. Purchaser L.O.I. no 3338 dated 20.12.2005.
- xxxii. Contractor letter no. SE/AKS/165/2005 dated 22.12.2005.


For Shahab Engineers Pvt. Ltd.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan, Patna


Director.


Chief Engineer
Bihar State Hydroelectric Power Corporation Ltd.

xxxiii. Purchaser L O I, no. 482 dated 11.02.06.

xxxiv. Contractor letter no. Camp Patna dated 12.02.06

xxxv. Purchaser letter no. 1124 dated 30.03.06

3. That in consideration of the payment of Rs. 3,19,25,200.00 (Rupees Three Crore Nineteen Lac Twenty Five Thousand Two Hundred) only to be made by the Purchaser to the Contractor, the Contractor hereby convenants with the Purchaser to execute the project on turn key basis and to do and perform all works, to remedy defects and things in this agreement or herein-after mentioned or described within and at the time and in the manner and subject to the terms and conditions, stipulation mentioned hereinafter and more particularly described as under the following sections of this agreement :-

Section I	:	Special conditions of contract
Section II	:	Schedule of Prices
Section III	:	General terms and conditions
Section IV	:	Technical Specification
Section V	:	Guaranteed technical particulars / Datasheet
Section VI	:	List of Instruments, Devices, Accessories, spares, tools & tackles
Section VII	:	Correspondence
Section VIII	:	Drawings

4. That the sections described above annexed here to form an integral part of this agreement / contract (hereinafter be collectively referred to as contract document), and that in consideration of the due performance and satisfactory execution of the project on Turn Key basis as mentioned in para two above, the Purchaser will pay to the Contractor the sum as mentioned in the schedule of prices contained in section I (special conditions of contract) & also section II (Break-up of prices) annexed and/or such other sum as may become payable to the contractor and such payment is to be made at such time and in such manner as is provided in the contract document.

[Handwritten signature]

[Handwritten signature]

Per Station

[Handwritten signature]
Director

[Handwritten signature]
Chief Engineer
S. S. State Hydroelectric Power Corporation Ltd.

[Handwritten signature]

In case, any of the terms given in section – III of the General terms and conditions laid down by the purchaser are at variance with section – I, the provision as contained in section – I shall prevail.

Notwithstanding anything contained elsewhere in this contract, this contract is awarded for completion of entire E/M works of the project on Turn Key Basis i.e. for supply of materials as per schedule of quantity in the tender document/ DPR for the services as contained in scope of work for the completion of the project as given in DPR and O & M of the system upon successful commissioning for a period of one year for a consideration of Rs. 3,19,25,200.00 (Rupees Three Crore Nineteen Lac Twenty Five Thousand Two Hundred) only as per the following breakup :

	Prices (Rs.)
Ex-work	- 2,80,85,200.00
Packing and forwarding	1,50,000.00
Insurance	- 1,94,000.00
Freight	- 3,63,000.00
Handling & Transportation	- <u>1,03,000.00</u>
Cost of equipment F.O.R. site (exclusive of taxes & duties)	- 2,88,95,200.00
Erection, testing & commissioning	- 17,10,000.00
Operation & maintenance for one year	<u>13,20,000.00</u>
Grand Total Rs.	3,19,25,200.00 lacs.

(Rupees Three Crore Nineteen Lac Twenty Five Thousand Two Hundred) only.

Above prices are firm inclusive of freight, insurance, packing, forwarding, transportation, loading/unloading upto project site/storage. The taxes, duties and levies extra.

5. Scope of work :

(i) Works :

The scope of this contract shall be the "Turn-key execution basis" of E/M package works only. It will be the contractor's responsibility, completely

Chief Engineer
Bihar State Hydroelectric Power Corporation Ltd.
Patna

Director

5
Chief Engineer
Bihar State Hydroelectric Power Corporation Ltd.
Patna

covering design, manufacture, supply, erection and testing in conformity with civil contractor, testing/commissioning and O&M of E/M equipment for one year as specified under the accompanying technical specifications of plant and equipment and the services as given hereunder.

(ii) **Supply :**

- (a) Detailed design of the plant and equipment of power house.
- (b) Designing, providing engineering drawings, data, operation manual etc. for the purchaser's approval.
- (c) Complete manufacture including shop testing.
- (d) Packing and dispatching from the manufacture's works, duly insured up to work site.

(iii) **Service :**

- (a) Taking delivery, handling, storage, preservation and conservation of equipment at the site/purchaser's stores.
- (b) Construction of all foundation structures, assembly and installation of equipment with embedding in conformity with civil contractor.
- (c) Testing, commissioning and conducting reliability tests and performance tests of all the equipment.
- (d) Successful running for one year after commissioning & handing over.

6. **TERM OF PAYMENT :**

(A) **SUPPLY :**

- (i) Mobilization advance equivalent to 5% of the ex-works price of the equipments against equal amount of guarantee shall be released only after receipt of the following drawings:

- (a) Power House General layout drawing,
- (b) Supply of all relevant data to civil works contractor for detailed design of civil structures i.e. loading diagram, D/T profiles, and details of earth-mat etc.

For Shokohad Engineers Pvt. Ltd.

[Signature]
Date: _____

6

[Signature]
Chief Engineer:

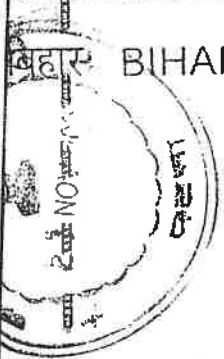
Bara-Bara Hydroelectric Power Corporation Ltd.

(25)

RS.50



Director



BIHAR

02AA 611814

Ex-20-24
दि. २०/०९/०७

प्राप्त का नाम एवं पता

[Signature]

generator main transformers, (out door type, Oil filled cooling ONAN with all auxiliary relay and protection system) for ARWAL SHP (1 X 500 KW) has placed work order no.3184 dated 20.09.07 for execution of work at a total cost of Rs.7.755 lacs (Rupees Seven lacs seventy five thousand five hundred) only F.O.R. site inclusive of excise duty, Sales tax, Packing and forwarding, Insurance freight charge upto site and exclusive of local taxes herein after called contract price. Price variation shall be governed by IEEMA circular No.- IEEMA/PVC/Dist - CU/2003 dated 1st June, 2003 subject to the provision at clause no.- 1.14.2 of general terms and condition of PURCHASER.

The CONTRACTOR has agreed to execute the above work, confirming with the provisions of general condition of NIT No.02/Elect/06-07 dated 17.04.2006, work order

[Signature]
Chief Engineer (Elect.)
Bihar Power Corporation Ltd.
Superintendent

[Signature]

For, Synergy Power Equipment Pvt Ltd,

[Signature]
Director



[Handwritten signature]
जिस का नाम एव पता...

02AA 611815

[Handwritten signature]

no.3184 dated 20.09.07 and general terms and condition of PURCHASER which FORM an integral part of this contract and which has been annexed as Annexure- I, II & III, and all the terms and conditions as contained in these documents shall be apart of this agreement.

The PURCHASER hereby agrees to pay to the contractor on due performance of this contract by the CONTRACTOR the price of Rs.7.755 lacs (Rupees Seven lacs seventy five thousand five hundred) only in accordance with the terms and condition specified in the work order no. 3184 dated 20.09.2007.

[Handwritten signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Handwritten signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For, Synergy Power Equipment Pvt. Ltd.
[Handwritten signature]
Director

भारतीय गैर न्यायिक

रुपये

रु. 20

Rs. 20

TWENTY
RUPEES

INDIA

INDIA NON JUDICIAL

बिहार

BIHAR

02AA 611816

IN WITNESS WHEREOF the parties hereto have signed this agreement at Patna
on the dates months and year mentioned against their respective signature.

Signature

for and on behalf of CONTRACTOR

Witness- For M/s M. K. Enterprises

(1) Signature

PARTNER.

Name & Address

(2) Signature

Name & Address

MITER COMPOUND
BORINH ROAD PATNA

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)

Signature

for and on behalf of PURCHASER.

Witness-

(1) Signature

MANISHARAN
BHPCL - Patna

(2) Signature

(Ghanshyam Mallik)
Name & Address S.E.C.E., BHPCL

For, Sanyasi Power Equipment Pvt. Ltd.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1
Director

16

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No. 314
Adm/EW/12-652/07-08

Dated 1. 8. 07 Shahabad-93

To,

M/s. Synergy Power Equipment Pvt. Ltd.,
Road no. 17, Jawahar Nagar,
Mango,
Jamshedpur.

Sub:- **Order for design, manufacture, supply and supervision of erection, testing & commissioning of 700 KVA, 11/0.415 KV Generator Main Transformer for Arwal, SHP.**

- Ref:
1. This office NIT No. 02/Elec/06-07 dated 17.04.2006.
 2. Your offer no. SPE/BHPC/55/06 dated 23.05.2006.
 3. Your offer no. SPE/BHPC/288/06 dated 02.11.2006.
 4. This office letter no. 4390 dated 18.12.2006.
 5. Your letter no. SPE/BHPC/375/07 dated 10.01.2007
 6. This office letter no 941 dated 02.03.2007
 7. This office letter no. 1197 dated 23.03.2007
 8. Your letter no. SPE/BHPC/451/07 dated 30.03.2007
 9. This office letter no. 1474 dated 16.04.2007
 10. This office letter no. 1696 dated 09.05.2007
 11. Your offer no. SPE/BHPC/39/07-08 dated 26.04.2007
 12. This office letter no. 1843 dated 23.05.2007
 13. Your letter no. SPE/BHPC/89/07-08 dated 23.05.2007
 14. AHEC letter no. 3750 dated 20.06.2007

Sir,

Your attention is invited to correspondences cited above.

The undersigned is pleased to place an order on you for design, manufacturing and supply of 700 KVA, 11/0.415 KV Generator Transformer for Arwal SHP on rate and terms and condition given below:-

- (1) **Scope of work -**
 - (i) Design, manufacture, supply of 700 KVA 11/0.415 KV Generator Main Transformer outdoor type, oil filled, cooling-ONAN, Vector group Ynd-11 with brought out terminal connection and all auxiliary, relay & protection system.
 - (ii) Supervision of erection, testing and commissioning of above transformer.
- (2) **Price - Rs.7.755 lacs (Rupees seven lacs seventy five thousand five hundred) only as detailed below:-**

Sl. No.	Description	M/s Synergy Power Equipment Pvt. Ltd.
1.	Revised Ex-work price	6.25
2.	Exoise duty	1.030
3.	Sales Tax	0.218
4.	Packing & forwarding per unit	0.03
5.	Insurance charges	0.03
6.	Freight charge	0.07
7.	Handling charges & transportation upto site	0.01
8.	Service charges	0.017
9.	Supervision of erection, testing & commissioning charges	0.1
	TOTAL	7.755

The above price is inclusive of Sales Tax excise duty, packing, forwarding, service charge and supervision of erection, testing & commissioning.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For, Synergy Power Equipment Pvt. Ltd.

Director

(3) Price variation-

This shall be governed by IEEMA circular no. IEEMA /PVC/Dist - CU/2003 dated 01.6.03 subject to the provision of clause no. 1.14.2 of General Terms & condition of BHPC.

(4) Freight & Insurance-

Included in price as at sl.-2.

(5) Completion Period-

4 months from the date of 1st mobilization advance.

(6) Payment Terms-(A) Supply-

- (i) Mobilization advance equivalent to 5% of Ex-works price of generator main transformer against equal amount of guarantee shall be released after receipt of following drawings and execution of agreement-

- (a) General arrangement drawing of generator main transformer
- (b) Detailed drawing of bushing.
- (c) Rating and diagram plate drawing.
- (d) Detail structure drawing for conservator, radiator etc.
- (e) Dimensional drawing for foundation and multi bolt bimetallic contact.

- (ii) Further 5% advance of ex-work price of generator main transformer shall be released after approval of all drawings mentioned above against equal amount of guarantee.

- (iii) 70% payment of ex-work price plus 100% tax & duties less proportioned advance against proof of dispatch document through State Bank of India, Dehri-on-Sone.

- (iv) 10% payment less proportioned advance after receipt and acceptance generator main transformer at site.

- (v) 20% payment less proportioned advance after commissioning of generator main transformer.

(B) Supervision of erection, testing & commissioning-

This shall be paid after commissioning of the transformer against verified bill by the Work Incharge.

(C) Guarantee

- (i) The above mentioned mobilization advances describing (A) shall be given against irrevocable Bank Guarantee of equivalent amounts issued by a nationalized bank. Alternatively, in special circumstances, if specifically agreed to by the Corporation, Corporate Guarantee shall be acceptable against the mobilization advances. But, the mobilization advances made against Corporate Guarantee shall carry a simple interest @ 3.0% per annum on the balance amount of advances standing with the contractor from the date of payment till the same is fully adjusted/recovered.

The Bank Guarantee or Corporate Guarantee shall be furnished by the contractor in the formats prescribed by the corporation.

Corporate Guarantee shall be accepted provided the same is supported with current income tax clearance certificate and the audited balance sheet of the financial year previous to the date of guarantee, to the satisfaction of the Corporation.

My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For, Synergy Power Equipment Pvt. Ltd.

Director

The corporate guarantee shall be further supported by an affidavit duly sworn and solemnly affirmed by the contractor in the prescribed format on appropriate amount of stamp paper indemnifying the corporation against any financial losses on this count.

(7) **Contract Performance Guarantee**

All equipment/material/work shall be guarantee for 15 (fifteen) months from the date of commissioning of against a Bank Guarantee for 10% of the contract price of electrical equipment. The Bank guarantee shall be furnished on or before claiming 20% (twenty percent) payment.

(8) **Warranty**

Warranty of the equipment supplied under this contract shall be for a period of twelve calendar months. Commencing immediately from the date of commissioning of switchyard.

(9) **Penalty-**

The penalty shall be @ 1% of the value of material delayed in delivery for every fortnight or part thereof subject to maximum 5% of the contract price.

(10) **Security Deposit**

Rs. 50,000.00 (Rupees fifty thousand) only, 50% of security money which shall be deposited in the form of Bank Guarantee before/at the time of executing agreement and remaining 50% shall be recovered from R.A. bill @ 5% amount of each bill.

(11) **Work Incharge** - Project Manager or his authorized representative

(12) **Paying Officer** - Asstt. Manager (A/c), H.E. Project, Barun, Aurangabad.

(13) **Supervision** - The Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee are our consultant. They will check all the design, construction, drawings, specifications, monitor the project, activities and will also undertake techno-commercial appraisal of the project.

(14) **Guaranteed Technical Particulars -**

The guaranteed performance and other technical particulars of the transformer have been detailed in our technical specification which has been guarantee by you in your offer and subsequent correspondences. The guarantee technical particulars of the transformer has been annexed as Annexure-II.

(15) **Penalty for no load losses and load losses -**

The losses at rated voltage, rated frequency and rated output has been guaranteed by you as indicated below :-

<u>Transformer</u>	<u>No load loss</u>	<u>Load loss at 75°C</u>
700 KVA	1.0KW	5 KW

At the time of inspection and shop testing, the test figures of the no load losses and load losses shall be compared with the correspondent guaranteed value.

Penalty on losses higher than the guaranteed value i.e. rate at capitalization shall be Rs. 1.85 lacs per KW. No weightage shall be given for lower losses.

(16) **Test and Inspection -**

No material or equipment shall be dispatched from the point of manufacture before it has been inspected by the purchaser or their authorized representative.

The transformer shall be completed assembled and tested at work in accordance with I.S. 2026 (Part-I). These testing shall be conducted in the presence of purchaser representative and a notice shall be given 30 days in advance from your side regarding readiness of equipment for testing.

These test shall consist of following tests :-

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)

For Bihar State Hydroelectric Power Corporation Ltd.

Sone Bhawan, Patna-1

For, Sanyam Power Equipment Pvt Ltd.

Director

A) Routine Test :

You shall have to carry out following routine test on each transformer as per IS 2026 (Part-I) -

Measurement of winding resistance.

- (a) Ratio, Polarity and Phase relationship.
- (b) Impedance voltage.
- (c) Load Losses.
- (d) No Load Losses.
- (e) Insulation resistance.
- (f) Induced over voltage withstand test.

B) Acceptance Test :

You shall have to carry out following acceptance test :-

- (a) All the routine test as per IS 2026 (Part-I) 1977.
- (b) Temperature rise test as per IS 2026 (Part-II).
- (c) Air pressure test - 0.7 kg./sq. cm above atmospheric pressure for 60 minutes.
- (d) Physical check up of various dimensions.
- (e) Checking of electrical clearance.
- (f) Di-electric test on oil.

C) Type Test :

You shall have to carry out following acceptance test :-

- (i) Dynamic ability to withstand short circuit test per IS 2026 (Part-I) 1977.
- (ii) Lightning impulse withstand test as per IS 2026 (Part-3) - 1981.

(17) Instruction Manuals -

You shall have to supply 6 (six) copies of operation, maintenance and erection manual one month prior to dispatch of transformer.

You shall have to furnish drawing as mentioned in clause no. 6 A in 6 copies for approval.

The other terms & condition as mentioned in the general terms & condition of BHPC and those agreed to in subsequent correspondence will be applicable.

Kindly acknowledge the receipt of the order along with your acceptance and execute the agreement after depositing security money within fifteen days from the date of issue of this order.

Encl: As above

Yours faithfully,

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____

Patna, the _____

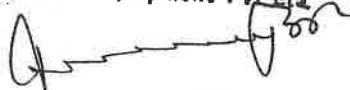
Copy alongwith enclosure forwarded to Shri Arun Kumar, Head, Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee-247 667 (Uttaranchal) for information and necessary action.

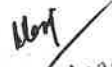
Fax: 01332-273517/273560

Email: ahed@iitr.ernet.in

Encl : As above

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

For, Synergy Power Equipment Pvt Ltd

Director


Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna
Sone Bhawan, Patna-1

(5)

Memo No. _____

Patna, the _____

Copy along with enclosure forwarded to Sri P.H. Singh, Project Manager, Chandil Dam HEP, Chandil, PO-Ghoraling, Kharsawan, West Singhbhum (Jharkhand) for information and necessary action.

FAX No. 0657 - 2464882.

Encl : As above.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect)

Memo No. _____

Patna, the _____

Copy along with enclosure forwarded to Sri G. Mallik, Project Manager/Sri Yogendra Prasad, Executive Engineer (E)/Assistant Manager (A/cs), Sone Western Link Canal H.E. Project, Barun for information and necessary action.

Encl : As above.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect)

Memo No. _____

Patna, the _____

Copy along with enclosure forwarded to Sri A.K.D. Verma, S.E. (E)/F.A./Manager (A/cs) BHPC, Patna for information and necessary action.

Encl : As above.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect)

Memo No. 3134 /

Patna, the 10-9-07 /

Copy submitted to the Managing Director, B.H.P.C.Ltd., Patna for favour of his kind information.

(Jawahar Lal)

Chief Engineer (Elect)

Chief Engineer (Elect.)

B. _____
Power Corporation Ltd.
Sone Bhawan, Patna-1

For, Synergy Power Equipment Pvt Ltd.

Director

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Agreement No. 31/Elect/07-08 Dated 24.01.2008

Contract Agreement

Between

BHPC & M/s Associated Engineering Centre, Patna

For the Design, Manufacture, Supply and Delivery of Switchyard
Equipment/Material at site and their Erection, Testing &
Commissioning for construction of 0.415/11 KV
Switchyard

of

Arwal (1 X 500 KW) SHP

Certified copy
Jant Sharan
14.2.08

Technical Secretary to Managing Director
BIHAR STATE HYDRO ELECTRIC
POWER CORPORATION LTD
(Govt. of Bihar Undertaking)

Bihar State Hydroelectric Power Corporation
(ISO 9001 : 2000 certified organisation)
Sone Bhawan, 2nd floor, B.C.Patel Marg, Patna -800 001.
Email : Pat_bshpc@dataone.in
Website: www. bshpcltd.com

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan
For Associated Engineering Centre

Proprietor

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan



BIHAR



Handwritten notes in Hindi and English, including dates like '24/01/2008' and '24/01/2009'.

Agreement No. 31/Elect/07-08 Dated 24.01.2008

CONTRACT AGREEMENT

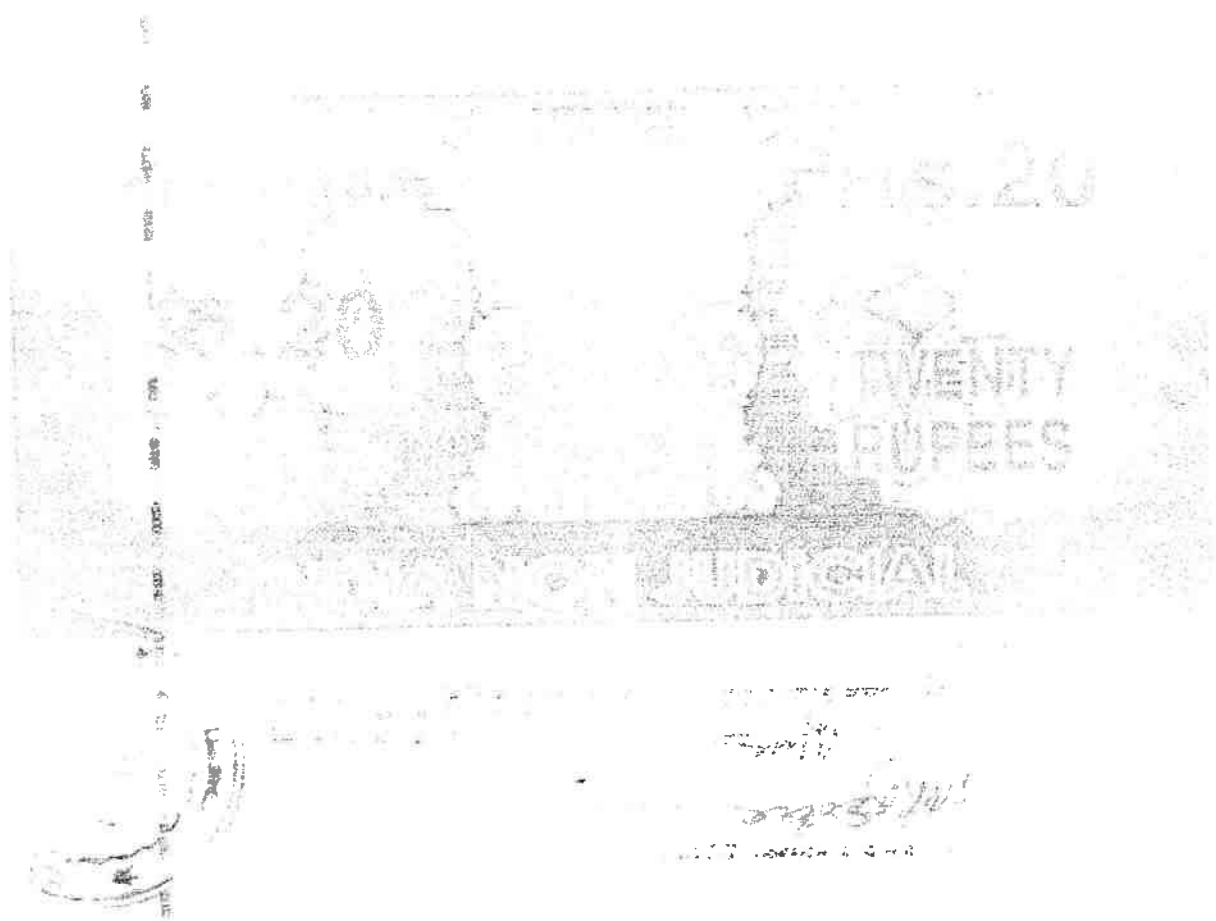
This agreement made this Ten Twenty Fourth day of two thousand and eight between Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof include its successor administrator and assigns of the one part) and M/s Associated Engineering Centre, having its registered office at Frazer Road, Patna (herein after referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns).

For Associated Engineering Centre

Handwritten signature
Proprietor

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric Power Corporation Ltd.
Sone Bhawan, Patna-1

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric Power Corporation Ltd.
Sone Bhawan, Patna-1



Whereas the PURCHASER having been desirous of design manufacture, supply and delivery of switchyard equipment/material at site and their erection, testing and commissioning for construction of 0.415/11 KV switchyard, on turn-key basis at Arwal (1 X 500 KW) SHP in Arwal Block under Arwal District, has placed work order no.2595 dated 26.07.07 for execution of work at a total cost of Rs.23,91,625/- (Rupees twenty three lacs ninety one thousand six hundred twenty five) only F.O.R. The price is firm, inclusive of excise duty, Sales tax, Packing and forwarding, Insurance and freight charge upto site and exclusive of local taxes, hereinafter called contract price.

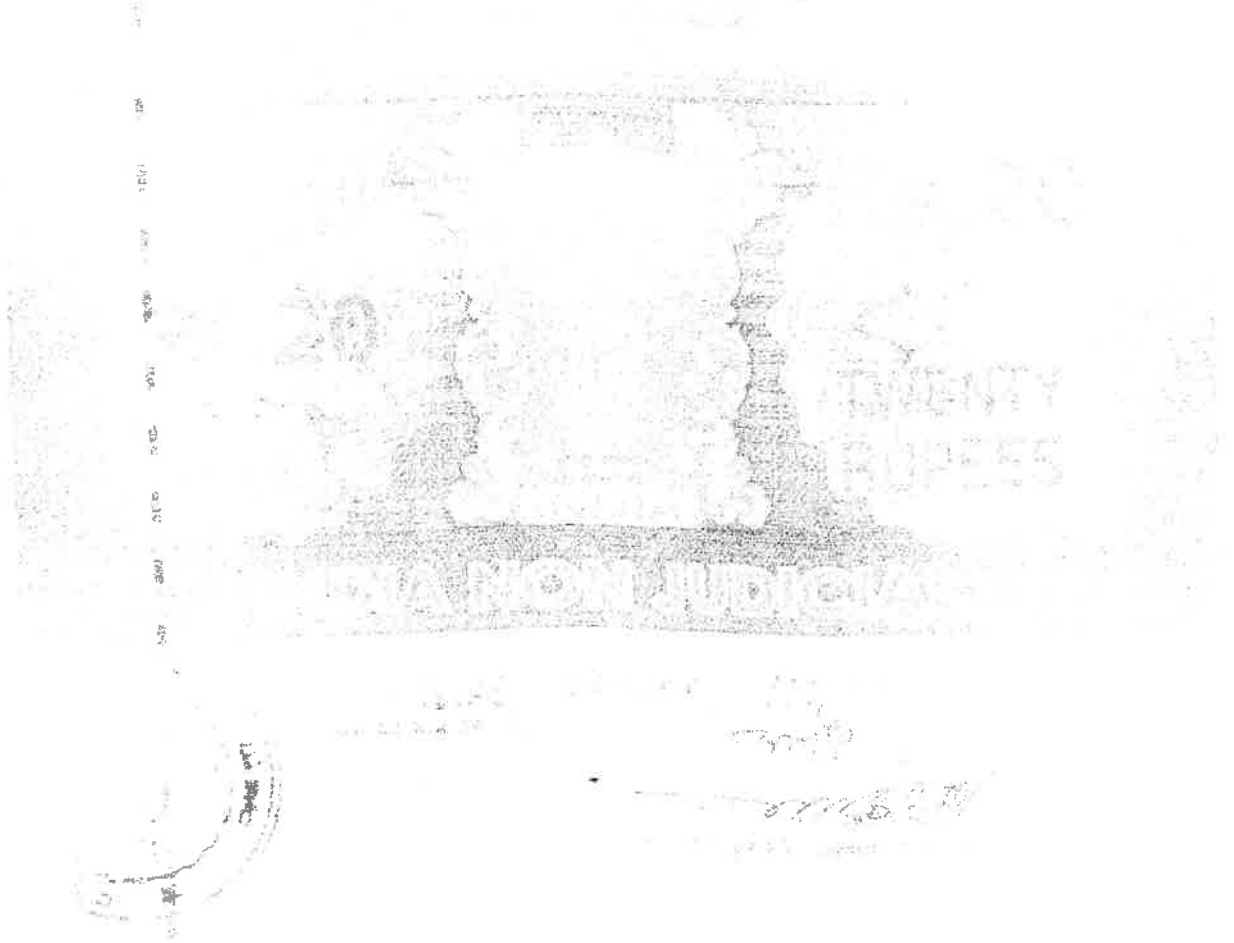
The CONTRACTOR has agreed to execute the above work, conforming with the provisions of general condition of NIT No.03/Elect/06-07 dated 27.04.06, L.O I. No. 2000 dated 06.08.07, work order no. 2595 dated 26.07.2007 and general terms and conditions

For Associated Engineering Centre

Handwritten signature/initials.

Handwritten signature/initials.

Chief Engineer (Elect)
Bihar Power Corporation Ltd.
Patna-1



of PURCHASER FORM an integral part of this contract and which has been annexed as Annexure I, II, III & IV. All the terms and conditions as contained in these documents shall be a part of this agreement.

The PURCHASER hereby agrees to pay to the contractor, on due performance of the contract price of Rs. 23,91,625.00 (Rupees twenty three lacs ninety - one thousand six hundred twenty five) only in accordance with terms and conditions of work order no. 2595 dated 26.07.2007.

For Associated B. Bhawan, Patna

[Handwritten signature]

[Handwritten signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Handwritten signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

五、研究结论

File # - 38487, 10-15-87, 10-15-87

on the dates, months and year mentioned against their respective signature

Signature

Signature

for and on behalf of PURCHASER.

Witness-

(1)

(1)

(2)

(2)



Chief Clerk - Elect 1
B. 1
Power Corp. Ltd.
S. 1

BIHAR STATE HYDRO-ELECTRIC POWER CORPORATION LTD.
 Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800001

M/Associated Engrg. VP-22

Work Order No. 2595
 Adms:EW/12-527.05

Dated 26.07.07

To,

M/s Associated Engineering Centre,
 Frazer Road,
 Chandni Chauk,
 Patna-800001

Sub:- Order for design, manufacturing, supply, erection, testing and commissioning of Switchyard of Arwal (1x500 KW) SHP on turn-key basis.

- Ref:-**
- i) This office N.I.T. No.03/Elect/06-07 dated 27.04.2006 (Package-IV)
 - ii) Your office letter no. AEC/BHPC/T/AR/06 dated 21.12.2006.
 - iii) This office letter no. 162 dated 05.01.2007.
 - iv) Your office letter no. AEC/BHPC/R/07 dated 22.01.2007.
 - v) This office letter no. 1176 dated 23.03.2007.
 - vi) Your office letter no. AEC/BHPC/AR/07 dated 24.03.2007.
 - xi) Your offer no. AEC/BHPC/T/WA/06 dated 21.12.2006.
 - xii) This office letter no. 2000 dated 06.06.2007.

Sir,

Kindly refer to the above.

Arwal SHP is one of the 17 Nos. NABARD financed Small Hydroelectric Project, which is in advance stage. In order to meet the pre-stipulated time schedule for the commissioning of the Project, the undersigned is pleased to place an order on your for construction of Switchyard of Arwal SHP on rates, terms & conditions given below :-

(1) **Scope of work :-**

A. Supply of equipment/materials -

Design, manufacture, supply of following equipments :

- i. 12KV, 630A, 18.4 KA VCB
 - ii. 9KV, 10KA, L.A.
 - iii. 11KV, 630A, Isolator
 - iv. 60/1A, 11KV, C.T.
 - v. 11KV/3/110V/3/110V/3 P.T.
 - vi. Protection and metering system as per approved S.L.D.
 - vii. Earthing system.
 - viii. Lighting protection.
 - ix. Fire protection system.
 - x. Pale fencing.
 - xi. Switchyard structure.
 - xii. Mandatory spare.
 - xiii. Cable -
- (i) 11KV, XLPE 3-core 185 mm² Al (ii) 1.1KV, XLPE, 3 core 600 mm² Al (iii) 1.1 KV, 3.5 core, 185 mm² armoured PV C AP (iv) Control & PVC Power copper cable.

For Associated Engineering Centre

[Signature]
 Proprietor

[Signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric Power Corporation Ltd.
 Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800001

Civil work -

- i. Leveling and dressing of switchyard area
- ii. Construction of the boundary wall
- iii. Foundation of equipments & structure
- iv. Construction of cable trench and its cover
- v. Arrangement of drainage system.
- vi. Pale fencing including provision of gate.
- vii. Painting of boundary wall, gate, structure etc.

C. Erection, testing and commissioning -

Erection, testing & commissioning of all switchyard equipment including generator main transformer and Auxiliary unit transformer.

(2) Price :- Rs. 23,91,625.00 (Rupees twenty three lacs ninety one thousand six hundred twenty five) only.

A) Supply -

Sl.No.	Description	Units	Qty	Amount (in Rupees)
A.	MAIN EQUIPMENT			
1	Vacuum Circuit Breaker 630A, 11KV, 18.4KA. Suitable for indoor installation. Make megawatt energy steel mark	No.	1	4,40,000.00
2	Current Transformers Four Cores 60/1 A ratio, cast resin 20VA burden suitable for installation in indoor VCB. Make - Techno/Kape	Nos	3	70,000.00
3	Potential Transformers 11KV/√3/110V/√3/110V/√3 three phase, cast resin potential transformer of 50VA burden suitable for installation in indoor VCB. Make - Techno/Kape	No.	1	70,000.00
4	Lightning Arrestors 9KV, 10KA station type metal oxide lightning arrestors. Make - Oblon/Elproy/Lanco	Nos	3	75,000.00
5	Isolator 11KV 630A three phase gang operated Isolator with earthing blades. Kiran engineering	No.	1	12,500.00
6	Control/Relay/Panels for Transformer/Cum feeder including control, protections and working systems.	No.	1	10.00
7	Cables a. 11KV XLPE Aluminium power cable 3 core 185 mm ² b. 1 KV grade XLPE Aluminium power cable, 3-core 630mm ² c. 1 KV grade 3.5 core 185mm armoured PVC Al. cable d. Multicore copper ed control cables e. Other PVC power cables for general use. Make - Havells, Capital.	L.S.	L.S.	1,80,000.00
8	Conductor ACSR RABBIT for jumpering of Switchyard equipment. Make as per IS Make - Aluminum	L.S.	L.S.	27,000.00
9	Hardware - Clamps & connectors, insulators etc.	L.S.	L.S.	13,500.00
10	Terminal structure and Supporting structures of equipment and cable rack	L.S.	L.S.	45,000.00

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan, Patna-1

11	Earthling Material Fire switchyard equipment earthing and lightning protection	As per Req		
12	Fire Protection system	L S	L S	16,000.00
13	Pale Fencing	As per Req	L S	1,26,000.00
B.	Mandatory Spares	As per List	L S	1,08,000.00
Total :-				14,66,000.00

B) Civil Work --

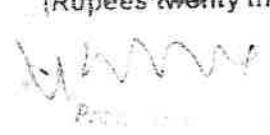
Sl.No.	Description	Quantity	Rate	Total Amount (in Rupees)
1	Levelling and dressing of the switchyard area, construction of the foundation, including excavation, making of templates etc. cable trenches, with covers and drainage system	L S.	4,50,000.00	4,50,000.00
Total :-				4,50,000.00

C) Erection, testing and commissioning --

Sl.No.	Description	Units.	Quantity	Rate	Total Amount (in Rupees)
A.	Erection, testing & commissioning of all equipments required and supplied as per the specification as follows :-				
i.	Power Transformer 1500 KVA	No.	1	1,00,000.00	1,00,000.00
ii.	Station Transformer 100 KVA (Indoor)	No.	1	40,000.00	40,000.00
iii.	Vacuum Circuit Breaker (Indoor) including CT & PT	No.	1	80,000.00	80,000.00
iv.	Isolator	No.	1	10,000.00	10,000.00
v.	Structure and cable racks	L S.	1	94,500.00	94,500.00
vi.	Lightning Arrestors.	Nos.	3	10,000.00	30,000.00
vii.	Earthing and Lighting system	L S.		36,000.00	36,000.00
viii.	Control Panel	No.	1	40,000.00	40,000.00
ix.	Power & control cables	L S.		45,000.00	45,000.00
x.	Pale Fencing including gates.	L S.		54,000.00	54,000.00
xi.	Jumpering etc.	L S.		36,000.00	36,000.00
xii.	Painting and finishing	L S.		36,000.00	36,000.00
Total :-					6,01,500.00

Total = A + B + C = Rs. 25,17,500.00
 Less : 5% rebate = Rs. 1,25,875.00
 Grand Total = Rs. 23,91,625.00

(Rupees twenty three lacs ninety one thousand six hundred twenty five) only.


 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sonu Bhawan, Patna-1


 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sonu Bhawan, Patna-1

The detailed break up of the prices of supply items under Sr. 4, is enclosed as Annexure-I

(3) Taxes and duties -

The above price is FIRM. FOR destination and inclusive of excise duty, sales tax, packing, forwarding, insurance, freight charge but exclusive of local taxes

(4) Completion Period -

4 (four) months from the date of order.

(5) Payment Terms-

A Advance:

- (i) Mobilization advance equivalent to 5% of the value of the order against equal amount of Guarantee on execution of agreement for.
 - (a) Mobilizing site facilities for starting the work.
 - (b) Construction of fencing of switchyard
 - (c) Placing orders for Electrical/equipment/structure.
- (ii) Advance equivalent to 5% of the total value of the order against equal amount of Guarantee after completion of works mentioned in (i) above for -
 - (i) Preparation of detail specification (GTP).
 - (ii) Preparation of foundation drawing of equipment/structure.
 - (iii) Preparation of Layout diagram of switchyard and submission of the same to AHEC, Roorkee.
- (iii) Advance equivalent to 10% of the total value of the order against equal amount of Guarantee after completion of works covered by (ii) above and after approval of specification and drawing for -
 - (a) Starting civil works on all fronts.
 - (b) Manufacture and supply of equipment/structure.

B Civil work-

100% payment, less proportionate advance against each running bill duly verified by site Engineer as per actual progress of work.

C. Electrical/Mechanical Equipments Supply-

- (i) 80% payment, less proportionate advances, against proof of dispatch documents negotiable through Bank.
- (ii) 10% payment less proportionate advance after receipt and acceptance of equipments at site.

Chief Engineer (Elect.)
Bihar State Electricity Board
Patna

Chief Engineer (Elect.)
Bihar State Electricity Board
Power Corporation Ltd.
Soane Bhawan, Patna-1

Date: _____

CONTRACT AGREEMENT
BETWEEN


BIHAR STATE HYDRO ELECTRIC POWER
CORPORATION LTD.

&

M/S ASSOCIATED ENGINEERING CENTRE,
FRASER ROAD, PATNA


FOR

Constructing 11 KV S/C Power Evacuation Line from Belsar –
Walidad - Arwal to 33 / 11 KV Arwal P.S.S. along with its
termination arrangement at 33 / 11KV Arwal P.S.S. which
included design, manufacture, supply & delivery of
equipment/ material at site, their erection,
testing & commissioning.


Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Bihar State Hydroelectric (ISO9001:2000 certified organization) Sone
Bhawan, 2nd Floor, B.C. Patel Marg Path 800001

Email : patbshpc@dataone.in

Website: www.bshpccltd.com 

Page No. _____

P. 1

पचास
रुपये

रु.50

FIFTY
RUPEES

Rs.50



INDIA NON JUDICIAL



10895 710 09-14 14 6 262236
41 24 11 20 07 11 48
Rajendra Prasad

Agreement No. 03/Elect/09-10 dt 12/10/09

CONTRACT AGREEMENT

This agreement is made this 12th day of October two thousand nine between Bihar State Hydroelectric Power Corporation Limited, Sone Bhawan, Birchand Patel Marg (hereinafter referred to as 'PURCHASER' which expression shall unless repugnant to the context and meaning thereof include its successor administrator and assigns of the one part) and M/s Associated Engineering Centre, having its registered office at Fraser Road, Chandni Chowk, Patna represented through its Proprietor Sri Umesh Kumar Verma, S/o Late R.C. Prasad resident of Kankarbagh, Patna. (hereinafter referred to as the Contractor which expression shall unless repugnant to the context and meaning thereof includes its successor administrator or assigns).

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan

Proprietor

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

पचास
रुपये
रु.50

FIFTY
RUPEES
Rs.50



INDIA NON JUDICIAL

बिहार

10396-7-1009

(2)

Whereas the PURCHASER have been desirous of Constructing 11KV S/C Power evacuation Line from Belsar - Walidad - Arwal to 33/11 KV Arwal P.S.S. along with its termination arrangement at 33/11 KV Arwal P.S.S. which included design, manufacture, supply & delivery of equipment/material at site, their erection, testing & commissioning and had placed L.O.I No. 2726 dated 11/08/09 for execution of work at a total cost of Rs. 119.3623 Lac (Rupees One crore nineteen lac thirty six thousand two hundred thirty) only. On firm, price, inclusive of excise duty, Sales tax, Packing, forwarding, Insurance and freight charge upto site herein after referred as contract price, on terms and conditions

given below.
Power Corporation Ltd.
Sone Bhawan, Patna

Ch. S. S. S. S.
Bihar Hydro Electric
Power Corporation Ltd.
Patna

A	Supply of equipment	
(i)	11 KV V.C.B.	1 No.
(ii)	11 KV L.A.	3 Nos.
(iii)	11 KV Isolator	2 Nos.
(iv)	11 KV C.T.	3 Nos.
(v)	11 KV P.T.	3 Nos.
(vi)	Control Protection & metering panel with U.P.S.	1 Nos.
(vii)	Control Cable/Power Cable	1 Lot
(viii)	Lighting System	1 Lot
(ix)	Earthing system	1 Lot
(x)	Lighting Protection	1 Lot
(xi)	Fire Protection System	1 Lot
(xii)	Switchyard Structure etc.	1 Lot.
(xiii)	Mandatory Spares	1 Lot
(xiv)	Recommended Spares	1 Lot.
(xv)	Battery & Charger etc.	1 Set
(xvi)	Poles P.S.C. / rail / joist.	
(xvii)	V. Cross arm.	
(xviii)	Air Break Switch	
(xix)	Insulator and Hardware	
(xx)	DOG Conductor	
(xxi)	Earthing System	For Line

B. Erection :-

- (i) Construction of Foundation for equipment and structure.
- (ii) Erection of equipment at 33/11 KV Arwal Sub-station.
- (iii) Pole Pitching, Fitting and fixing of Insulator, Hardware fitting, stay wire earthing etc. as per R.E.C. Specification
- (iv) Stringing of Conductor.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

12/4/09

Testing and Commissioning :-

- (i) Testing and commission of equipment installed at 33/11 KV Arwal P.S.S for termination of Power and metering arrangement.
- (ii) Testing and commissioning of Belsar - Walidat - Arwal Power Sub-station 11 KV Power evacuation Line.

Price :- Rs. 119.3623 lacs for supply, erection, testing & commission of 11 KV Transmission Line & Termination arrangement at 33/11 KV Arwal Power Sub-station.

Sl. No	Supply of equipment for Termination	Qty.	Rate (Rs. in lacs)	Amount (Rs. in lacs)
(i)	11 KV V.C.B	1 Nos.	4.50	4.50
(ii)	11 KV lightning Arrestor	3 Nos.	0.22	0.66
(iii)	11 KV Isolator	2 Nos.	0.20	0.40
(iv)	11 KV current transformer	3 Nos.	0.28	0.84
(v)	11 KV Potential Transformer	3 Nos.	0.30	0.90
(vi)	Control / Protection & metering Pannel with UPS.	1 Nos.	2.15	2.15
(vii)	Power & Control Cable	1 Lot.	1.40	1.40
(viii)	Lighting System	1 Lot.	0.90	0.90
(ix)	Earthing System	1 Lot.	0.60	0.60
(x)	Lightening Protection	1 Lot.	0.40	0.40
(xi)	Fire protection system	1 Lot.	0.45	0.45
(xii)	Switchyard structure etc.	1 Lot.	2.50	2.50
(xiii)	Battery & Charger etc.	1 Set	1.60	1.60
(xiv)	Mandatory Spares	1 Lot.	0.90	0.90
(xv)	Recommended Spares	1 Lot.	0.90	0.90

Chief Engineer
Bihar State Hydro Electric
Power Corporation Ltd.
Sonabhadra, Patna

13/11/09

Chief Engineer
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

2.1 Erection :-

- | | | |
|---|-------------------------------------|------|
| 1 | Construction of Foundation | 2.50 |
| 2 | Erection of structures & equipments | 1.00 |

2.2 11 KV Line :-

1. Poles P.S.C. Rails / Joists.
2. V - Cross Arm
3. Insulators & Hardwares
4. Conductor DOG.
5. Earthing system
6. Air breaker Switch

24.4 Km - 3.95 per Km - 96.38

2.3 Erection Work :-

7. Pole grouting
8. Erection, Earthing & Stringing

2.4 Testing & Commissioning :-

- | | | | |
|----|----------------------------------|---|------------|
| 1. | Equipment at 33/11KV sub-station | - | LS. - 1.80 |
| 2. | 11 KV Line. | - | LS. - 0.40 |

Total - 121.18

Rebate 1.5% (-) 1.8277

Net Amount : Rs.119.36 Lacs

(Rupees one crore nineteen lack thirty six thousand only)

List of Mandatory and recommended spares and enclosed with L.O.I.

3. Taxes and duties :-

The above price is FIRM and inclusive of excise duty, Sales tax, packing, forwarding, insurance, freight charges up to site.

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan Varanasi Centre
Completion Period :-

Proprietor

Handwritten signature
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

Agreement No. 24/ELCT/07-08 Dated 24.01.2008

Contract Agreement

Between

BHPC & M/s Synergy Power Equipment Pvt. Ltd.

**for the Design, Manufacture, Supply and Supervision of Erection,
Testing & Commissioning of 100 KVA & 83 KVA 0.415/0.415 KV
Station Auxiliary Transformer**

of

**Tejpora, Sebari, Shirkhinda, Paharma, Rajapur, Walidad, Amethi,
Rampur, Arwal & Natwar SHPs.**

**Bihar State Hydroelectric Power Corporation
(ISO 9001 : 2000 certified organisation)**

Sone Bhawan, 2nd floor, B.C. Patel Marg, Patna - 800 001

Email : Pat_bshpc@dataone.in

Website: www.bshpc Ltd.com

**BIHAR STATE HYDRO ELECTRIC
POWER CORPORATION LTD.
(Govt. of Bihar Undertaking)**

**Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1**

20/10/2007

20/10/2007

Patna

To
M/s Synergy Power Equipment Pvt. Ltd.
17 Jawahar Nagar, Mangga
Jamshedpur - 832 119

File No. 6057-748000

Subj:- Order for design, manufacturing and supply of 100 KVA & 63 KVA
Station Auxiliary Transformers for Tejpura, Sebari, Shirkhinda, Walidad,
Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs.

- Ref:-
- This office N.I.T No.07/Elect/06-07 dated 21.12.2006.
 - Your offer no. SPE/BHPC/06/07-08 dated 07.04.2007.
 - AHEC, letter no. 2179 dated 21.05.07.
 - This office letter no. 2010 dated 07.06.2007.
 - Your letter no. SPE/BHPC/128/07-08 dated 13.08.2007
 - This office letter no.2473 dated 19.07.2007.
 - AHEC, letter no.4203 dated 17.08.2007.
 - This office letter no.2890 dated 22.08.2007
 - Your letter no. Nil dated 30.08.2007

Sir

Kindly refer to the above correspondences

The undersigned is pleased to place an order on you for design, manufacturing supply and supervision at erection, testing and commissioning of 100 KVA and 63 KVA Station Auxiliary Transformer for Tejpura, Sebari, Shirkhinda, Walidad, Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs on rate and terms and condition given below:-

(1) Scope of Work:-

- ii) Design manufacturing supply and supervision of erection, testing and commissioning of 100 KVA, 0.415/0.415kV, out door type oil filled cooling ONAN vector group Dyn-1.

Design, manufacturing, supply and supervision of erection, testing and commissioning of 63 KVA 0.415/0.415KV out door type oil filled cooling ONAN vector group -Dyn -1.

- (2) Price : Rs 17,06,428.42 (Rupees seventeen lacs six thousand four hundred twenty eight & paise forty two) only as per the details given below -

Sl.No.	Description	Qty.	Unit Price	Amount (in Rupees)
1	Design, manufacturing, supply and supervision of erection, testing and commissioning of 100 KVA Station Auxiliary Transformer for Tejpura, Sebari, shirkhinda, Paharma, Rajapur and Walidad SHPs alongwith Mondatory Spare, tools land tackles.	6 Nos	1,88,560.07	11,31,360.42

Chief Engineer

Signature
Date

17 08 42 42
The above price is inclusive of packing, forwarding, sales tax, excise duty, service tax, supervision of erection, testing and commissioning cost of Mandatory spare and tools & tackles

Price variation

This shall be governed by IEEMA Circular No. IEEMA/PVC/PS-CU/2003 subject to the provision of clause no 1.14.2 of General terms and condition of BBOC

Freight & Insurance

Included in price at 11 no-2

Completion Period

6 months from the date of receipt of advance

Payment Terms

A Supply:

(i) Mobilization advance equivalent to 5% of Ex-works price of Station Auxiliary transformer against equal amount of Bank guarantee shall be released after receipt of following drawings and execution of agreement-

- (a) General arrangement drawing of Station Auxiliary transformer
- (b) Detailed drawing of bushing
- (c) Rating and diagram plate drawing.
- (d) Detail structure drawing for conservator, radiator etc
- (e) Dimensional drawing for foundation
- (f) Assembly drawing of the Transformer

(ii) Further 5% advance of ex-work price of Station Auxiliary transformer shall be released after approval of all drawings mentioned above against equal amount of Bank guarantee issued by the Nationalize Bank.

(iii) 70% payment of ex-work price plus 100% tax & duties less proportionate advance against proof of dispatch document through State Bank of India, Dehri.

(iv) 10% payment less proportionate advance after receipt and acceptance station auxiliary transformer at site

(v) 20% payment less proportionate advance after successful commissioning and acceptance of station auxiliary transformer

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDRO-ELECTRIC POWER CORP. LTD.

2ND FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. - 22/1971 dated - 17/12/1971

CONTRACT FOR

DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND
COMMISSIONING AND OPERATION & MAINTENANCE OF
TURBINES, GEAR BOX, GENERATORS AND AUXILIARIES
AND ALL OTHER ELECTROMECHANICAL EQUIPMENTS

OF

SEBARI S. H. P.

(2 x 500 KW)

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Block - NASARIGANJ, DIST.-ROHTAS



1. SCOPE OF WORK

The scope of work shall include the following:-
 (a) Design, supply, erection, commissioning, testing, and maintenance of the project site including all civil and electrical works (including but not limited to, gate, dam, powerhouse and power evacuation system), inter-action and proper liaison with civil contractor for smooth and timely execution of the project and O & M for one year after successful commissioning in conformity with latest International and National standards.

2. PRICE :

S.No.	Description of Items	Qty	Total cost as quoted F.O.R. destination site excluding taxes/duties etc. (Rs. in lakh)
A.	Price for supply of equipment		
01	Turbine 500 KW vertical semi Kaplan type with governor, DPU and other systems and accessories.	2 Sets	
02	Synchronous Generator 510 KW 0.90 P.F. 415 V. 3 Phase 50 Hz with complete Brush less excitor and other accessories.	2 sets	
03	Gear box complete with oil pumping & cooling unit.	2 Sets.	
04	Cooling water system	2 Nos.	
05	Station Drainage & Dewatering System.	1 Lot	
06	Oil Purification/Filtration m/c	1 No.	
07	75 KVA Diesel Generating set with control	1 No.	
08	Station Auxiliary A.C. distribution Boards.	1 Lot.	
09	L.T. distribution board with MCCBS CTs & relay etc with two incoming & one outgoing.	1 Set.	
10	Air conditioning and ventilation system	1 Set.	
11	Fire protection system	1 Set	

Chief Engineer (Electrical)
 Bihar State Hydroelectricity
 Power Corporation Ltd.
 Sonapatna, Bihar

Chief Engineer (Civil)
 Bihar State Hydroelectricity
 Power Corporation Ltd.
 Sonapatna, Bihar

13.	Control metering & relay panel and UCB	2 Sets	
14.	415 V switchgear including Cts, relay etc.	1 set	
14.	24 V Batteries with charger & DB	1 set	
15.	EOT Crane (10 Ton)	1 No.	3,68,45,000.00
16.	Power & Control Cables	1 Lot.	
17.	Lighting system including fitting	1 Lot.	
18.	Earthing system for P.H. excluding embedded earth mat.	1 Lot.	
19.	Mandatory spares	1 Lot.	
Sub Total :			3,68,45,000.00

Total Cost		
(B)	SCHEDULE OF FOR ERECTION TESTING AND COMMISSIONING	
01	Turbine 500 KW Vertically semi Kaplan Type with Governor and other systems and accessories including cooling water, drainage & dewatering system etc.	5,00,000.00
02	Synchronous Generator 500 KW 0.9 PF, 415 Volts, 3 Phase 50 Hz with complete static excitation and other accessories	Includer
03	Gear Box Complete with oil pumping & cooling Unit.	Includer
04	Oil purification and filtration m/c	Includer
05	Station auxiliary Ac distribution Board	Includer
06	Fire protection system	Includer
07	Air Conditioning and ventilation system	Includer
08	24 V Batteries with charger and DB	Includer
09	Control meeting relay panel and UCB	Includer
10	415 V switchgear including Cts. Relay etc.	Includer

Chief Engineer
Bihar State Hydro Electric
Power Corporation Ltd.
Gone Bhawan, Patna

Chief Engineer (H)
Bihar State Hydro Electric
Power Corporation Ltd.

12.	Lighting system including fittings	Included
13.	Earthing system for PH excluding embedded earth mat.	Included
14.	Diesel generator (75 KVA) with control panel	Included
15.	E.O.T. crane (10 ton)	Included
16.	L.T. Distribution Board with MCCB, CTS, etc with two incomers and one out going	Included
17.	Mandatory spares	Included
18.	Miscellaneous as required for completion of E/m works if any	Included
	Sub - Total	RS. 5,00,000.00
(C)	O & M FOR ONE YEAR	
01	One year O & M services	18,00,000.00
	Sub Total (Offer of the firms)	
	Total (A + B + C)	3,91,45,000.00
Rupees Three Crore ninety one lac forty five thousand only		

Rs. 3,91,45,000.00 (Rupees Three Crore ninety one lac forty five thousand) only FIRM F.O.R. destination. The taxes/ duties, levies shall be extra at actuals. The contractor will submit the break up of cost of each item as per schedule of requirement of BHPC

3. TAXES & DUTIES

Taxes and duties viz sales tax, excise duty, local taxes and other levies as applicable on contract price in respect of transaction between the contractor and the BHPC which will be borne by BHPC as per actual. Income tax, however, shall be borne by the contractor.

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Chief Engineer (Gen)
Bihar State Hydroelectric
Power Corporation Ltd. PATNA

1325

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No. 4318 /
Adm/EW/12-523/05-vol III

Patna, dated 09.12.06 C.E./Letter/Eng 2/188

To,

M/s Hardware Tools & Machinery Syndicate,
803, Sapath-I,
Opposite Rajpath Club,
Sarkhej, Gandhinagar Highway,
Ahmadabad - 380 015.

Fax No. 079/26871804/26872107

Sub;

Sebari (2x500 KW) - Letter of Intent for Design, manufacture, supply, erection, testing & commissioning of Intake Gate & Hoisting arrangement.

Ref.

- i. This office N.I.T. No. 06/Elect/05-06 dated 20.2.06
- ii. This office letter no. 1749 dated 20.5.06
- iii. Your office letter no. 1948 dated 5.6.06
- iv. Your office letter no. HTMS/DD/549/06-07 dated 26.5.06
- v. Your letter no. nil dated 13.6.06
- vi. This office memo no. 2393 dated 6.7.06
- vii. Your office letter no. Nil dated 21.7.06
- viii. This office letter no. 2723 dated 5.8.06
- ix. Your office letter no. HTMPPL/755/06-07 dated 28.7.06
- x. This office letter no. 3313 dated 16.9.06
- xi. Your office letter no. HTMPPL/NIL/06-07 dated 21.9.06
- xii. This office letter no. 3486 dated 26.9.06
- xiii. Your office letter no. HTMPPL/360L/06-07 dated 10.10.06
- xiv. Your office letter no. HTMPPL/216/06-07 dated 13.10.06

Sir,

With reference to the above, a letter of Intent is hereby issued in your favour for design, manufacture, supply, erection, testing & commissioning of Intake Gate & Hoisting Arrangement of Sebari SHP (2 x 500 KW) on the price, terms & conditions as detailed below -

SCOPE OF WORK

Design, drawing, manufacture, transportation, handling, supply, site storage, site erection, painting, testing & commissioning including provision for labour plant material spares for Intake Gate and Hoisting arrangement of Sebari (2 x 500 KW).

(2)

PRICE: (A)

Sl.No.	Description of Item	Qty.	Amount (Rs.)
1.	2 nd stage embedments (2sets of embedments of each unit)	2 sets.	8,89,200.00
2.	Gate Assemblies	2 nos.	21,58,200.00
3.	Hydraulic hoist mechanism with structures.	2 sets.	34,52,600.00
4.	Erection, testing & commissioning		included to above
		Total	65,00,000.00

(Rupees sixty five lacs) only.

Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDRO-ELECTRIC POWER CORPORATION LTD.

No. 1000/2006

To,

M/s Hardware Tools & Machinery Syndicate
803, Sarani
Opposite Baraila Bldg
Sankar Chandra Mahapatra Highway,
Ahmedabad - 380 015

Fax No 079/26878998

Sub: Sebani (2x500 KW) - Letter of Intent for Design, manufacture, supply, erection, testing & commissioning of D.T. Gate & Hoisting arrangement

Ref:
i. This office N.I.T. No. 06/Elect/05-06 dated 26.2.06
ii. This office letter no. 1749 dated 20.5.06
iii. This office letter no. 1948 dated 5.6.06
iv. Your office letter no. HTMS/DO/549/06-07 dated 26.5.06
v. Your letter no. nil dated 13.6.06
vi. This office memo no. 2393 dated 6.7.06
vii. Your office letter no. Nil dated 21.7.06
viii. This office letter no. 2723 dated 5.8.06
ix. Your office letter no. HTMPPL/755/06-07 dated 10.10.06
x. This office letter no. 3313 dated 14.9.06
xi. Your office letter no. HTMPPL/NIL/06-07 dated 21.9.06
xii. This office letter no. 3486 dated 26.9.06
xiii. Your office letter no. HTMPPL/361/06-07 dated 10.10.06
xiv. Your office letter no. HTMPPL/217/06-07 dated 13.10.06

Sir,

With reference to the above, a letter of intent is hereby issued in your favour for design, manufacture, supply, erection, testing & commissioning of D.T. Gate & Hoisting Arrangement of Sebani SHP (2 x 500 KW) on the price, terms & conditions as detailed below.

SCOPE OF WORK

Design, drawing, manufacture, inspection, shop assembly, transportation, handling supply, site storage, site erection, painting, testing & commissioning including provision for labour plant material spares for D.T. Gate and Hoisting arrangement of Sebani (2 x 500 KW)

(2) PRICE: (A)

SLNo	Description of Item	Qty	Amount (Rs.)
1	2 nd stage embedments (2 sets of embedments of each unit)	2 no	11,10,600.00
2	Gate Assemblies	1 no	11,36,600.00
3	Travelling Gantry Crane with automatic lifting beam	1 no	30,52,800.00
4	Erection, Testing & Commissioning of above		Includes in above
		Total	53,00,000.00

(Rupees fifty three lacs) only

The above price is firm inclusive of all taxes & duties, freight & insurance, packing & forwarding etc

Hm
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

(Signature)
S.E.

Agreement No. 33/Elect/07-08 Dated 24.01.2008

Contract Agreement

Between

BHPC & M/s Associated Engineering Centre, Patna

For the Design, Manufacture, Supply and Delivery of Switchyard
Equipment/Material at site and their Erection, Testing &
Commissioning for construction of 0.415/11 KV
Switchyard

of

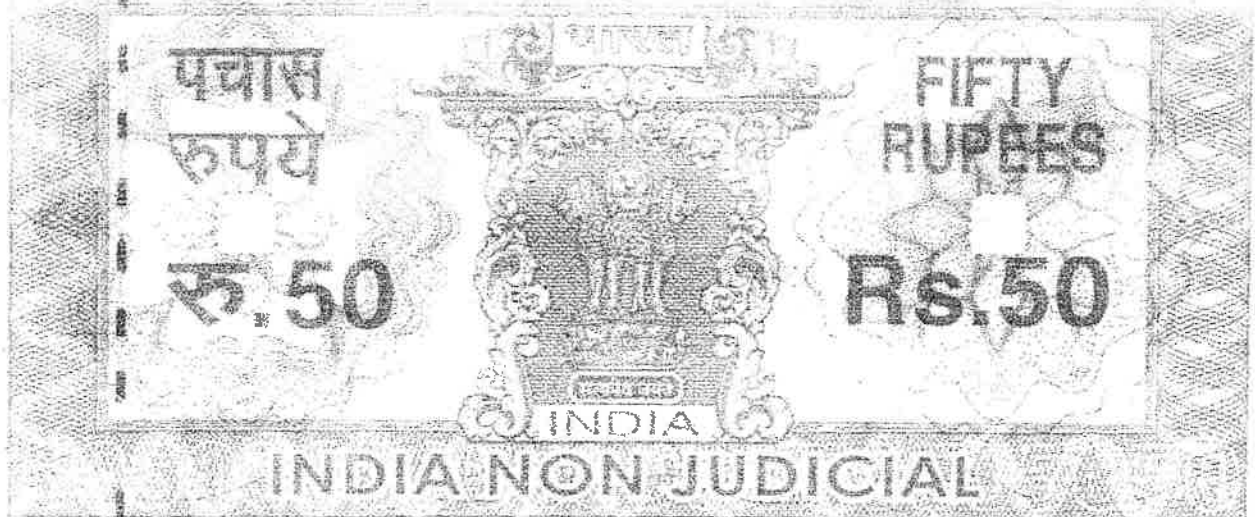
Sebari (2 X 500 KW) SHP

certified copy
Anil Kumar
14.2.08
Technical Secretary to Managing Director
BIHAR STATE HYDRO ELECTRIC
POWER CORPORATION LTD.
(Govt. of Bihar Undertaking)

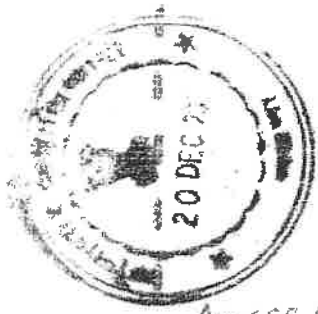
Bihar State Hydroelectric Power Corporation
(ISO 9001.: 2000 certified organisation)
Sone Bhawan, 2nd floor, B.C.Patel Marg, Patna -800 001.
Email : Pat_bshpc@dataone.in
Website: www.bshpcltd.com

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Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1
Engineering Centre
14/2/08

14/2/08
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



बिहार BIHAR



24-12-07 11:00 AM 065001
विद्युत वित्त विभाग, बिहार
पटना-1
24-12-07, 11:00 AM 065001

Agreement No 33/Elect/07-08 Dated 24.01.2008

CONTRACT AGREEMENT

This agreement made this Jan. Twenty Fourth day of two thousand and eight between Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof include its successor administrator and assigns of the one part) and M/s Associated Engineering Centre, having its registered office at Frazer Road, Patna (herein after referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns).

For Associated Engineering Centre
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



बिहार BIHAR



15/12/08 24-12-07 110 065001
16/12/08 24-12-07 110 065001
17/12/08 24-12-07 110 065001
18/12/08 24-12-07 110 065001
19/12/08 24-12-07 110 065001
20/12/08 24-12-07 110 065001
21/12/08 24-12-07 110 065001
22/12/08 24-12-07 110 065001
23/12/08 24-12-07 110 065001
24/12/08 24-12-07 110 065001

Agreement No 33/Elect/07-08 Dated 24.01.2008

CONTRACT AGREEMENT

This agreement made this Ten Twenty Four day of two thousand and eight between Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof include its successor administrator and assigns of the one part) and M/s Associated Engineering Centre, having its registered office at Frazer Road, Patna (herein after referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns).

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

UWVWV

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



15/38 26-7-2017 110 0244 698626

Whereas the PURCHASER having been desirous of design manufacture, supply and delivery of switchyard equipment/material at site and their erection, testing and commissioning for construction of 0.415/11 KV switchyard, on turn-key basis at Sebari (2 X 500 KW) SHP in Nasariganj Block under Rohtas District, has placed work order no.2583 dated 26.07.07 for execution of work at a total cost of Rs.23,91,625/- (Rupees twenty three lacs ninety one thousand six hundred twenty five) only F.O.R. The price is firm, inclusive of excise duty, Sales tax, Packing and forwarding, Insurance and freight charge upto site and exclusive of local taxes, hereinafter called contract price.

Chief Engineer (Elect.)
Bihar
Power
Bihar



2003 dated 06.06.07, work order no.2583 dated 26.07.07 and general terms and conditions of PURCHASER FORM an integral part of this contract and which has been annexed as Annexure - I, II, III & IV. All the terms and conditions as contained in these documents shall be a part of this agreement.

The PURCHASER hereby agrees to pay to the contractor, on due performance of the contract price of Rs. 23,91,625.00 (Rupees twenty three lacs ninety one thousand six hundred twenty five) only in accordance with terms and conditions of work order no. 2583 dated 26.07.2007.

For Associated Engineering Centre
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Proprietor

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800001.

Main (Work Order) Sone Bhawan, Patna

Work Order No. 2583 /
Adm/EW/12-529/06

Dated 26.07.07

To,

M/s Associated Engineering Centre,
Frazer Road,
Chandni Chauk,
Patna-800001.

Sub:- Order for design, manufacturing, supply, erection, testing and commissioning of Switchyard of Sebari (2x500 KW) SHP on turn-key basis.

Ref:- i) This office N.I.T. No.03/Elect/06-07 dated 27.05.2006 (Package-IV)
ii) Your office letter no. AEC/BHPC/T/ISB/06 dated 21.12.2006.
iii) This office letter no. 178 dated 08.01.2007.
iv) Your office letter no. AEC/BHPC/T/ISB/07 dated 22.01.2007.
v) This office letter no. 1137 dated 19.03.2007.
vi) Your office letter no. AEC/BHPC/T/ISB/07 dated 22.03.2007.
vii) Your offer no. AEC/BHPC/T/WA/06 dated 21.12.2006.
viii) This office letter no. 1744 dated 15.05.2007.
ix) Your office letter no. AEC/BHPC/SY/R/07 dated 15.05.2007.
x) This office letter no. 1845 dated 23.05.2007.
xi) Your office letter no. AEC/BHPC/SY/R/07 dated 28.05.2007.
xii) This office letter no. 2003 dated 06.06.2007.

Kindly refer to the above.

Sebari SHP is one of the 17 Nos. NABARD financed Small Hydroelectric Project, which is in advance stage. In order to meet the pre-stipulated time schedule for the commissioning of the Project, the undersigned is pleased to place an order on your for construction of Switchyard of Sebari SHP on rates, terms & conditions given below :-

(1) Scope of work :-

A. Supply of equipment/materials -

Design, manufacture, supply of following equipments :

- i. 12KV, 630A, 18.4 KA VCB
- ii. 9KV, 10KA, L.A.
- iii. 11KV, 630A, Isolator
- iv. 60/1A, 11KV, C.T.
- v. 11KV/N3/110V/N3/110V/N3 P.T.
- vi. Protection and metering system as per approved S.L.D.
- vii. Earthing system.
- viii. Lighting protection.
- ix. Fire protection system.
- x. Pale fencing.

For Associated Engineering Centre
Chief Engineer (S.E.)
Bihar State Hydroelectric Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (S.E.)
Bihar State Hydroelectric Power Corporation Ltd.
Sone Bhawan, Patna-1

- xi. Switchyard structure.
 xii. Mandatory spare.
 xiii. Cable - (i) 11KV, XLPE, 3-core 185 mm² Al (ii) 1.1KV, XLPE, 3 core 600 mm² Al (iii) 1.1 KV, 3.5 core, 185 mm² armoured PV C AP (iv) Control & PVC Power copper cable.

B. Civil work -

- i. Levelling and dressing of switchyard area.
 ii. Construction of the boundary wall.
 iii. Foundation of equipments & structure.
 iv. Construction of cable trench and its cover.
 v. Arrangement of drainage system.
 vi. Pale fencing including provision of gate.
 vii. Painting of boundary wall, gate, structure etc.

C. Erection, testing and commissioning -

Erection, testing & commissioning of all switchyard equipment including generator main transformer and Auxiliary unit transformer.

(2) **Price :-** Rs. 23,91,625.00 (Rupees twenty three lacs ninety one thousand six hundred twenty five) only.

A. Supply -

Sl.No.	Description	Units	Qty.	Amount (in Rupees)
A.	MAIN EQUIPMENT			
1.	Vacuum Circuit Breaker 630A, 12KV, 18.4KA, Suitable for indoor installation, Make megawin energy steel mark.	No.	1	4,40,000.00
2.	Current Transformers Four Cores 60V/A ratio, cast resin 20VA burden suitable for installation in indoor VCB. Make - Techno/Kapa	Nos.	3	70,000.00
3.	Potential Transformers 11KV/√3/110V/√3/110V/√3 three phase, cast resin potential transformer of 50VA burden suitable for installation in indoor VCB. Make - Techno/Kapa	No.	1	70,000.00
4.	Lightning Arrestors 9KV, 10KA station type metal oxide lightning arrestors. Make - Obdom/Elpro/Lanco	Nos.	3	75,000.00
5.	Isolator 11KV 630A three phase gang operated isolator with earthing blades. Kran engineering	No.	1	12,500.00
6.	Control/Relay/Panels for Transformer/Cum feeder including control, protections and working systems.	No.	1	1,91,000.00
7. a. b. c.	Cables 11KV XLPE Aluminium power cable 3 core 185 mm ² 1.1KV grade XLPE Aluminium power cable, 3-core 620mm 1.1KV grade 3.5 core 185mm armoured PVC Al. cable Multicore copper ed control cables Other PVC power cables for general use. Make - Havelies, Capital.	L.S.	L.S.	1,80,000.00

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

	Conductor ACSR RABBIT for jumpening of Switchyard equipment. Make as per IS Make - Aluminium	L.S.	L.S.	27,000.00
9.	Hardware - Clamps & connectors, Insulators etc.	L.S.	L.S.	13,500.00
10.	Terminal structure and Supporting structures of equipment and cable rack.	L.S.	L.S.	45,000.00
11.	Earthing Material For switchyard equipment earthing and lightning protection.	As per Req.	L.S.	72,000.00
12.	Fire Protection system	L.S.	L.S.	36,000.00
13.	Pale Fencing	As per Req.	L.S.	1,26,000.00
B.	Mandatory Spares	As per List	L.S.	1,08,000.00
Total :-				14,66,000.00

B. Civil work -

Sl.No.	Description	Quantity	Rate	Total Amount (in Rupees)
1.	Levelling and dressing of the switchyard area, construction of the foundation, including excavation, making of templates etc. cable trenches, with covers and drainage system.	L.S.	4,50,000.00	4,50,000.00
Total :-				4,50,000.00

C. Erection, testing and commissioning -

Sl.No.	Description	Units.	Quantity	Rate	Total Amount (in Rupees)
A.	Erection, testing & commissioning of all equipments required and supplied as per the specification as follows :-				
i.	Power Transformer 1500 KVA	No.	1	1,00,000.00	1,00,000.00
ii.	Station Transformer 100 KVA (Indoor)	No.	1	40,000.00	40,000.00
iii.	Vacuum Circuit Breaker (Indoor) including CT & PT.	No.	1	80,000.00	80,000.00
iv.	Isolator	No.	1	10,000.00	10,000.00
v.	Structure and cable racks.	L.S.	1	94,500.00	94,500.00
vi.	Lightning Arrestors.	Nos.	3	10,000.00	30,000.00
vii.	Earthing and Lighting system.	L.S.		36,000.00	36,000.00
viii.	Control Panel	No.	1	40,000.00	40,000.00
ix.	Power & control cables.	L.S.		45,000.00	45,000.00
x.	Pale Fencing including gates.	L.S.		54,000.00	54,000.00
xi.	Jumping etc.	L.S.		36,000.00	36,000.00
xii.	Painting and finishing	L.S.		36,000.00	36,000.00
Total :-					6,01,500.00

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Engineering Centre

11/11/11

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Total = A + B + C =	Rs. 25,17,500.00
Less : 5% rebate =	Rs. 1,25,875.00
Grand Total =	Rs. 23,91,625.00

(Rupees twenty three lacs ninety one thousand six hundred twenty five) only.

The detailed break up of the prices of supply items under Sl. 2 (A) above is enclosed as Annexure-I.

(3) Taxes and duties -

The above price is FIRM for destination and inclusive of excise duty, sales tax, packing, forwarding, insurance, freight charge but exclusive of local taxes.

(4) Completion Period -

4 (four) months from the date of order.

(5) Payment Terms-

A. Advance:

(i) Mobilization advance equivalent to 5% of the value of the order against equal amount of Guarantee on execution of agreement for:

- (a) Mobilizing site facilities for starting the work.
- (b) Construction of fencing of switchyard.
- (c) Placing orders for Electrical/equipment/structure.

(ii) Advance equivalent to 5% of the total value of the order against equal amount of Guarantee after completion of works mentioned in (i) above for -

- (i) Preparation of detail specification (GTP).
- (ii) Preparation of foundation drawing of equipment/structure.
- (iii) Preparation of Layout diagram of switchyard and submission of the same to AHEC, Roorkee.

(iii) Advance equivalent to 10% of the total value of the order against equal amount of Guarantee after completion of works covered by (ii) above and after approval of specification and drawing for-

- (a) Starting civil works on all fronts
- (b) Manufacture and supply of equipment/structure.

B. Civil work-

100% payment, less proportionate advance against each running bill duly verified by site Engineer as per actual progress of work.

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Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-I

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-I

C. Electrical/Mechanical Equipments Supply-

- (i) 80% payment, less proportionate advances, against proof of dispatch documents negotiable through Bank.
- (ii) 10% payment less proportionate advance after receipt and acceptance of equipments at site.
- (iii) 10% payment less proportionate advance after successful commissioning of the project.

D. Erection/Testing/Commissioning

100% payment less proportionate advance, of each running bill verified by concerned Field Officers as per actual progress of work and milestones mentioned in the agreement.

E. Guarantee

- (i) The above mentioned mobilization advances describing (A) shall be given against irrevocable Bank Guarantee of equivalent amounts issued by a nationalized bank. Alternatively, in special circumstances, if specifically agreed to by the Corporation, Corporate Guarantee shall be acceptable against the mobilization advances. But, the mobilization advances made against Corporate Guarantee shall carry a simple interest @ 3.0% per annum on the balance amount of advances standing with the contractor from the date of payment till the same is fully adjusted/recovered.

The Bank Guarantee or Corporate Guarantee shall be furnished by the contractor in the formats prescribed by the corporation.

- (ii) Corporate Guarantee shall be accepted provided the same is supported with current income tax clearance certificate and the audited balance sheet of the financial year previous to the date of guarantee, to the satisfaction of the Corporation.

The corporate guarantee shall be further supported by an affidavit duly sworn and solemnly affirmed by the contractor in the prescribed format on appropriate amount of stamp paper indemnifying the corporation against any financial losses on this count.

(6) Incentive -

An incentive @2% of the value of this order (excluding taxes & duties, packing, forwarding, freight charges & Insurance charges) may be paid to you on completion of the civil works of the switchyard mentioned in our letter no. 2002 dated 06.06.2007 by 15.06.2007.

(7) Warranty

Warranty of the equipment supplied under this contract shall be for a period of fifteen calendar months commencing immediately from the date of commissioning of switchyard.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Associated Engineering Centre

Chief Engineer

(8) Contract Performance Guarantee

All equipment/material/work shall be guarantee for 15 (fifteen) months from the date of commissioning of the entire switchyard against a Bank Guarantee for 10% of the contract price of electrical equipment. The Bank guarantee shall be furnished on or before claiming 10% (ten percent) payment as indicated above in clause 5, c, (ii).

(9) Security Deposit

Rs. 1.50 lac (Rupees one lac fifty thousand) only, 50% security money shall be deposited in the form of Bank Guarantee before executing agreement and remaining 50% shall be recovered from bill @ 5% amount each bill.

(10) Work Incharge-

Project Manager or his authorised representative.

(11) Penalty-

The penalty shall be levied @ 1% of the value of equipment for delayed of every fortnight or part thereof in completion of work subject to a maximum 5% of the contract price thereof.

(12) Paying Officer-

Assistant Manager (Accounts), Sone Western Link Canal H.E. Project, Dehri-on-Sone (Rohtas).

(13) Supervision -

The Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee are our consultant. They will check all the design, construction, drawings, specifications, monitor the project, activities and will also undertake techno-commercial appraisal of the project.

The other terms & conditions as mentioned in the general terms & conditions of BHPC and those agreed to in subsequent correspondences will be acceptable.

Kindly acknowledge the receipt of this order alongwith your acceptance and execute the agreement after depositing security money as stipulated above within fifteen (15) days from the date of issue.

Yours faithfully,

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Encl :- As above.

My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

U.S.W. 11111

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Memo No. _____

Patna, the _____

Copy alongwith enclosure forwarded to Shri Arun Kumar, Head, Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee,-247 667 (Uttaranchal) for information and necessary action.

Fax: 01332-273517/273560

Email: ahec@iitr.ernet.in

Encl :- As above

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____

Patna, dated _____

Copy alongwith enclosure forwarded to Sri G. Mallik, Project Manager/ Sri Surendra Kumar, Asstt. Engineer (Elect), Sone Western Link Canal H.E. Project, Dehri-on-Sone, Distt.-Rohtas for information and necessary action.

Encl :- As above.

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____

Patna, dated _____

Copy alongwith enclosure forwarded to Sri P.N.Singh, Project Manager, Chandil Dam H.E. Project, Chandil, PO-Ghoraling, Distt.- Saraikela-Kharsawan (Jharkhand) for information and necessary action.

Encl :- As above.

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____

Patna, dated _____

Copy alongwith enclosure forwarded to Sri A. K. D. Verma, Superintending Engineer (E)/Financial Advisor/Manager (Accounts), B.H.P.C. Ltd., Patna for information and necessary action.

Encl :- As above.

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo No. 25831

Patna, the 26.07.07

Copy submitted to the Managing Director, B.H.P.C.Ltd., Patna for favour of his kind information.

[Signature]
26/7/07

(Jawahar Lall)
Chief Engineer (Elect)

[Signature]
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Signature]
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

1399

Agreement No. 24/elect/07-08 Dated 04.01.2008

Contract Agreement

Between

BHPC & M/s Synergy Power Equipment Pvt. Ltd.

**for the Design, Manufacture, Supply and Supervision of Erection,
Testing & Commissioning of 100 KVA & 63 KVA 0.415/0.415 KV
Station Auxiliary Transformer**

of

**Tejpora, Sebari, Shirkhinda, Paharma, Rajapur, Walidad, Amethi,
Rampur, Arwal & Natwar SHPs.**

**Bihar State Hydroelectric Power Corporation
(ISO 9001 : 2000 certified organisation)
Sone Bhawan, 2nd floor, B.C. Patel Marg, Patna - 800 001
Email : Pat_bshpc@dataone.in
Website: www.bshpccltd.com**

**Technical Secretary to Managing Director
BIHAR STATE HYDRO-ELECTRIC
POWER CORPORATION LTD.
(Govt. of Bihar Undertaking)**

**Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1**

BIHAR STATE HYDROELECTRIC POWER CORPORATION
Sone Bhawan, 2nd Floor, Birla Hotel Marg, Patna - 800 001.

Work Order NO. 2.5
Adm/EN/12-503/08

Patna, the 21.12.2006

To,
M/s Synergy Power Equipment Pvt. Ltd.
17, Jawahar Nagar, Mango,
Jamshedpur - 832 110

Fax No: 6667 - 2460694

Sub:- Order for design, manufacturing and supply of 100 KVA & 63 KVA Station Auxiliary Transformers for Tejpura, Sebari, Shirkhinda, Walidad, Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs.

- Ref:-
- i) This office N.I.T No.07/Elect/06-07 dated 21.12.2006.
 - ii) Your offer no. SPE/BHPC/06/07-08 dated 07.04.2007.
 - iii) AHEC, letter no. 2179 dated 21.05.07.
 - iv) This office letter no. 2010 dated 07.06.2007.
 - v) Your letter no. SPE/BHPC/128/07-08 dated 13.06.2007.
 - vi) This office letter no.2473 dated 19.07.2007.
 - vii) AHEC, letter no.4203 dated 17.08.2007.
 - viii) This office letter no.2660 dated 22.08.2007.
 - ix) Your letter no. Nil dated 30.08.2007

Sir,

Kindly refer to the above correspondences.

The undersigned is pleased to place an order on you for design, manufacturing supply and supervision at erection, testing and commissioning of 100 KVA and 63 KVA Station Auxiliary Transformer for Tejpura, Sebari, Shirkhinda, Walidad, Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs, on rate and terms and condition given below:-

(1) Scope of Work:-

- (i) Design manufacturing supply and supervision of erection, testing and commissioning of 100 KVA, 0.415/0.415kV, out door type oil filled cooling ONAN vector group Dyn-I.
- (ii) Design, manufacturing, supply and supervision of erection, testing and commissioning of 63 KVA 0.415/0.415KV out door type oil filled cooling ONAN vector group -Dyn -I.

(2) Price : Rs 17,06,428.42 (Rupees seventeen lacs six thousand four hundred twenty eight & paise forty two) only as per the details given below:-

Sl.No.	Description	Qty.	Unit Price	Amount (in Rupees)
1	Design, manufacturing, supply and supervision of erection, testing and commissioning of 100 KVA Station Auxiliary Transformer for Tejpura, Sebari, Shirkhinda, Paharma, Rajapur and Walidad SHPs alongwith Mandatory Spare, tools and tackles	6 Nos.	1,86,550.07	11,31,360.42

Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

commissioning of 23 KV Station
Auxiliary Transformer for Sarda Apatar
Rampur and Natar alongwith
Mandatory Spare tools and tackles

Total 17,06,428.42

Price breakup alongwith list of Mandatory spare and tools and tackles are enclosed as Annexure-I.

The above price is inclusive of packing, forwarding, sales tax, excise duties, service tax, supervision of erection, testing and commissioning cost of Mandatory spare and tools & tackles.

(3) Price variation-

This shall be governed by IEEMA Circular No. IEEMA/PVC/Pcs-CU/2003 subject to the provision of clause no. 14.2 of General terms and condition of BHPG

(4) Freight & Insurance-

Included in price at sl. no. 2

(5) Completion Period-

4 months from the date of 1st mobilization advance.

(6) Payment Terms-

A. Supply:

- (i) Mobilization advance equivalent to 5% of Ex-works price of Station Auxiliary transformer against equal amount of Bank guarantee shall be released after receipt of following drawings and execution of agreement:
 - (a) General arrangement drawing of Station Auxiliary transformer.
 - (b) Detailed drawing of bushing
 - (c) Rating and diagram plate drawing.
 - (d) Detail structure drawing for conservator, radiator etc.
 - (e) Dimensional drawing for foundation.
 - (f) Assembly drawing of the Transformer.
- (ii) Further 5% advance of ex-work price of Station Auxiliary transformer shall be released after approval of all drawings mentioned above against equal amount of Bank guarantee issued by the Nationalize Bank.
- (iii) 70% payment of ex-work price plus 100% tax & duties less proportionate advance against proof of dispatch document through State Bank of India, Dehri.
- (iv) 10% payment less proportionate advance after receipt and acceptance station auxiliary transformer at site.
- (v) 20% payment less proportionate advance after successful commissioning and acceptance of station auxiliary transformer.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1

No.

To,

M/s Associated Engineering Centre
Prasat Road, Chandini Chowk
Patna-800 001

Sub: Design, Manufacture, supply of equipment and material for erection, testing & commissioning of Seban - Pahama - Nasirganj 11 KV S/c line with its termination arrangement at Nasirganj 33/11KV Power sub-station Provisional LOI

- Ref:-
- NIT No.06/Elect/2008-09 dt.23.06.08.
 - Your Offer No. AEC/BHPC/SPN/08 dated 8.9.2008
 - AHEC Roorkee letter no. 8986 dated 29.11.08
 - This office letter no. 4493 dated 28.12.08
 - Your letter no. AEC/BHPC/T/L-08 dated 10.12.08
 - AHEC Roorkee letter no. 1133 dated 6.1.2009
 - This office letter no. 113 dated 13.1.09

We have already informed you vide our letter no. 113 dated 13.1.2009, that your offer for construction of Seban - Pahama - Nasirganj 11 KV S/c power evacuation line and its termination arrangement at Nasirganj 33/11KV PSS has been found to be acceptable both technically and commercially.

Price part of bids were opened on 27.01.09. After evaluation of the price quoted by you for this work, it has been found that the total value of the work quoted by you is prima-facie lower than that of other participants in the tender.

Accordingly steps are being taken to place L.O.I. on the price, terms & conditions as detailed below:-

1. Scope of work

A. Supply of equipment

- | | | |
|--|---|--------|
| (i) 11KV V.C.B | - | 1 No. |
| (ii) 11KV L.A | - | 3 Nos. |
| (iii) 11KV Isolator | - | 2 Nos. |
| (iv) 11KV C.T | - | 3 Nos. |
| (v) 11KV P.T | - | 3 Nos. |
| (vi) Control Protection & metering panel with U.P.S. | - | 1 No. |
| (vii) Control Cable / Power Cable | - | 1 Lot |

Associated Engineering Centre

Chief Engineer (Elect)
Bihar State Hydroelectricity
Power Corporation Ltd.
Patna-1

Chief Engineer
Bihar State Hydroelectricity
Power Corporation Ltd.
Patna

Power Corporation Ltd.

12

(vi) Lighting system	1 Lot
(vii) Earthing system	1 Lot
(ix) Switchgear Structure	1 Lot
(x) Recommended Spare	1 Lot
(xi) Poles P.C.D. and joint	
(xii) V Cross arm	
(xiii) Air Break Switch	
(xiv) Insulator and Hardware	
(xv) Rabi Conductor	
(xvi) Earthing system	1 Lot

B. Erection

- Construction of Foundation for equipment and structure
- Erection of equipment at 33/11 KV Nasiganj substation
- Stringing, Filing and Sagging of conductors. Holes were fixed as per drawing and as R.E.C. Specification
- Stringing of Conductor.

C. Testing and Commissioning

- Testing and commissioning of equipment installed at 33/11KV Nasiganj P.S.S. for termination of Power and metering arrangement.
- Testing and commissioning of Sebari, Paharama, Nasiganj P.S.S. 11 KV Power evacuation Line

2. Price

Sl. No.	Supply of equipment for Termination	Qty	Rate (in Lac)	Amount (in Lac)
(i)	11 KV V C B	1 Nos.	4.50	4.50
(ii)	11 KV Lightning Arrestor	3 Nos.	0.22	0.66
(iii)	11 KV Isolator	2 Nos.	0.20	0.40
(iv)	11 KV Current Transformer.	3 Nos.	0.28	0.84
(v)	11 KV Potential Transformer.	3 Nos.	0.30	0.90
(vi)	Control / Protection & Metering Pannel with UPS.	1 Nos.	2.15	2.15
(vii)	Power & Control Cable	1 Lot.	1.40	1.40
(viii)	Lightening System	1 Lot.	0.90	0.90
(ix)	Earthing System	1 Lot.	0.60	0.60
(x)	Lightening Protection	1 Lot.	0.10	0.40
(xi)	Fire Protection system	1 Lot.	0.15	0.45

Chief Engineer (Electric)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Bill
Power Corporation Ltd.

(xii)	Battery & Charger etc.	1 Lot.	1.60	1.60
(xiii)	Mandatory Spares	1 Lot.	0.90	0.90
(xiv)	Recommended Spares As per list enclosed.	1 Lot.	0.90	0.90

2.1 Erection

1.	Construction of Foundation	-	-	2.50
2.	Erection of structures & Equipment.	-	-	1.00

2.2 11 KV Line

1. Poles P.C.C Rails / Joist
2. V. Cross Arm.
3. Insulators & Hardware.
4. Conductor
5. Earthing system
6. Air breaker Switch.

10.5 Km - 4.10 lacs/Km = 43.05

2.3 Erection Work

7. Pole grouting.
8. Erection, Earthing & Stringing

2.4 Testing & Commissioning

1.	Equipment at 33/11KV Sub-station.	-	L.S.	- 1.80
2.	11 KV Line.	-	L.S.	- 0.40

Total -	67.85
Rebet-15%	(-) 1.02
Net Amount -	66.83 Lacs

3. Taxes and duties -

The above price is FIRM and inclusive of excise duty, Sales Tax/VAT ~~but sales tax~~, packing, forwarding, insurance, freight charges up to site.

4. Completion Period -

4 months from the date of L.O.I.

5. Payment Terms -

A. Advance -

- (i) Mobilization advance equivalent to 5% of the value of the order against equal amount of Guarantee on execution of agreement for.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISES)

2nd FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. – 03//Civil/2004-05 dated - 06-09-04

CONTRACT FOR
SURVEY, DESIGN, DRAWING, CONSTRUCTION
OF CIVIL WORKS OF POWER HOUSE AND
ALLIED STRUCTURES

FOR
SEBARI SMALL HYDEL PROJECT
(2 x 500 KW)

certified copy

Superintending Engineer (Civil)
Bihar State Hydroelectric
Power Corporation Ltd.,
PATNA

BLOCK – NASRIGANJ, DIST.-ROHTAS

Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.,
Sone Bhawan, Patna-1



BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
(A GOVT. OF BIHAR ENTERPRISES)

SECOND FLOOR, SONE BHAWAN, PATNA

AGREEMENT NO.: 03/Civil/2004-05 DATED: 06-09-04

This agreement made this 6th day of September two thousand and four between Bihar State Hydroelectric Power Corporation Limited, Patna (hereinafter referred to as 'Purchaser' which expression shall unless repugnant to the context or meaning thereof, includes its successors, administrators and assigns) of the one part and M/S VILLAGE ELECTRIFICATION WORKS having its office at Nasriganj, District Rohtas hereinafter referred to as the 'Contractor' which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) of the other part.

Where as the purchaser is desirous of setting up of 2 x 500 (KW) S.H.P. at SEBARI in the District of ROHTAS has issued letter of Intent vide letter no. 2089 dated 16.06.2004 for the execution of the Civil works of the Project at a total cost of Rs. 1,73,24,449/- (Rupees One crore seventy three lac twenty four thousand four hundred forty nine only) (hereinafter called the contract price) as per terms and conditions mentioned below

114
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

114
Depoty Chief Engineer (Civil)
Bihar State Hydro Electric
Corporation Ltd.

1. Scope of work :

The scope of this work is limited to Pre construction detailed survey of Power Channel, tailrace channel, power house, soil bearing test, fixing of bench mark, collection of hydrological and other data, digging test pits, Earth Resistivity test, L. section and cross section of canal, contour survey and preparation of contour map covering entire project area and plain table survey, fixation of pillars, dog belling, water and soil test (Alterberg's limit and other soil indices), soil bearing pressure test and construction of power house, Lined tail race channel, Lined Power Channel and one no. SLR Bridge on Power Channel and on tail race channel each and one no. DLR Bridge.

2. PRICE :

Sl. No.	Item of work	Amount
1.	Preliminary except detail engineering & drawing.	Rs. 2,95,400/-
2. i.	Excavation of power channel	Rs. 9,15,800/-
ii.	Construction of lined power channel	Rs. 9,69,500/-
iii.	Construction of SLR Bridge on power channel	Rs. 11,64,050/-
iv.	Construction of SLR Bridge on tailrace channel	Rs. 11,64,050/-
v.	Construction of Power House	Rs. 100,46,200/-
vi.	Excavation of tail race channel	Rs. 4,99,500/-
vii.	Lining of tailrace channel	Rs. 11,18,100/-
viii.	Construction of DLR Bridge on power channel.	Rs. 16,78,520/-
Total of 2 : Rs.		1,75,55,720/-
Rebate (-) 3% : Rs.		5,26,671
Total : Rs.		1,70,29,049/-
Total 1 + 2		1,73,24,449/-

3. That in consideration of the payment of Rs. 1,73,24,449/- (One crore seventy three lacs twenty four thousand four hundred forty nine only) to be made by the purchaser the contractor shall execute the work and shall do and perform all works, remedy defects and do things specified in the contract mentioned or described therein, within and at the time prescribed and in the manner and subject to the terms and conditions stipulated and mentioned hereinafter and more particularly described under :

VILLAGE - 44-2
 Chief Engineer (Electric)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

VILLAGE - 44-2
 Chief Engineer (Electric)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

4. The following document shall be deemed to form and be read and construed as part of the agreement (hereinafter collectively referred to as contract document).

- i. Notice Inviting Tender No. 01/Elect./2001-02 dated 18.04.2001
- ii. Tender Documents complete with all terms and conditions and Technical specifications.
- iii. Special conditions of contract. (Section-I)
- iv. Price schedule and Bill of quantity. (Section-II)
- v. LOI issued vide BHPC letter No. 2089 dt. 16.06.04
- vi. Detailed Project Report (DPR).
- vii. General Terms and Conditions of the BHPC.
- viii. Correspondence between BHPC and the Tenderer.
 - a. BHPC Letter No. 1652 dated 2.7.03. Minutes of Pre-Bid meeting dated 2.0.02
 - b. BHPC letter No. 2446 dated 9.9.03 M/s Village Electrification & letter No. 145 dated 3.8.03.
 - c. AHEC, Roorkee letter no. 6154 dated 7.11.03
 - d. BHPC letter no. 3423 dated 20.11.03
 - e. E. Engineer (E), BHPC letter no. 3890 dated 17.12.03
 - f. M/s Village Electrification Works letter no. Nil dated 22.12.03
 - g. BHPC letter no. 417 dated 6.02.04
 - h. M/s Village Electrification Works letter no. Nil dated 12.2.04.
 - i. BHPC letter no. 1846 dated 27.05.04
 - j. BHPC letter no. 2089 dated 16.06.04
 - k. M/s Village Electrification Works letter no. 34 dated 18.08.04

5. And whereas the contractor has accepted the L.O.I. under reference as stated in the preceding paragraphs on the terms and subject to the conditions agreed/conveyed in subsequent discussions and correspondences including those mentioned in para – 4 above.

for Mr. M.
27/11/2004
11/11
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

K. P. Pathak
Deputy Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

In witness whereof the parties hereto have signed this agreement and put their seal at Patna on the dates, months and year mentioned here-in-above.

NAME & SIGNATURE OF WITNESS

1. Signature *[Signature]*
Name & Address *Ganpati Engineering*
Indra Nagar, Gaitan Road, Patna
2. Signature *[Signature]*
Name & Address *9.04*
1. Signature *[Signature]*
Name & Address *YOGENDRA SHARMA*
E.E. (Civil)
2. Signature *[Signature]*
Name & Address *9.04*

VILLAGE ELECTRIFICATION WO.
[Signature]
6/09/04
AUTHORISED SIGNATORY

(Signature of Contractor)

[Signature]
6/9/04
(Signature of Purchaser)
Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

[Signature]
Chief Engineer (Civil)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Signature]

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISES)

2ND FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. -06/Civil/2008-09 dated - 25.3.2009

CONTRACT FOR
**SURVEY, DESIGN, DRAWING, CONSTRUCTION
OF CIVIL WORKS OF POWER HOUSE AND
ALLIED STRUCTURES**

FOR
SEBARI SMALL HYDEL PROJECT
(2 x 500 KW)

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

DIST.-ROHTAS (BIHAR)

For, Shahabad Engineers Pvt. Ltd.

Handwritten signature
Director

Handwritten signature
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

CONTENT

Sl. No.	Item	Page No.
1.	Agreement	
2.	Special Condition of Contract	
3.	Schedule of Price	
4.	General Condition of Contract	
5.	Technical Specification	
6.	Correspondences	

Umy
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For, Shahbad Engineers Pvt. Ltd.,

For
Director

For
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

832 110 (hereinafter referred to as 'Contractor' which expression shall unless repugnant to the context and meaning thereof include its successors, administrators and assigns) of the other part.

Where as the purchaser is desirous of setting up of 2x500 (KW) S.H.P. at **SEBARI** in the District of ROHTAS has issued Order vide letter no. 539 dated 17.02.2009 for the execution of the Civil works of the Project at a total cost of Rs. 64,09,630.00 (Rupees Sixty four lacs nine thousand six hundred thirty) only (hereinafter called the contract price) as per terms and conditions mentioned below :

1. **Scope of work :**

The scope of this work is limited to complete the balance work of :

- a. Construction of Power House
- b. Construction of lined Tail race Channel
- c. Construction of S.L.R. Bridge over Tail race Channel
- d. Construction of Lined Power Channel.

2. **PRICE :**

The price is firm and net inclusive of all taxes and duties as applicable.

Sl. No.	Item of work	Amount (Rs.)
1.	Power House	46,57,650.00
2.	Power Channel	8,26,360.00
3.	Tail Race Channel	3,01,500.00
4.	S.L.R. Bridge	6,24,120.00
	Total :	64,09,630.00

(Rupees Sixty four lac nine thousand six hundred thirty) only.

3. That in consideration of the payment of Rs. 64,09,630.00 (Rupees Sixty four lac nine thousand six hundred thirty) only to be made by the purchaser the contractor shall execute the work and shall do and perform all works, remedy

For, Shahabad Eng neers Pvt. Ltd.

Yeeh

Director

ii

Wm
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

gpe

detects and do things specified in the contract mentioned or described therein, within and at the time prescribed and in the manner and subject to the terms and conditions stipulated and mentioned hereinafter and more particularly described under.

4. The following document shall be deemed to form and be read and construed as part of the agreement (hereinafter collectively referred to as contract document).
- Letter No. 4039 dated 14.11.2008.
 - Letter No. SEPL/DHR/178/08-09 dated 4.12.08.
 - Letter No. 143 dated 19.1.2009.
 - Order No. 539 dated 17.02.2009.

In the witness whereof the parties here to have signed this agreement at Patna on dates months and year mentioned against their respective signatures.

NAME & SIGNATURE OF WITNESS

For, Shahabad Eng neers Pvt. Ltd.

Ram Babesh
Director
(Signature of Contractor)

1. *Murmu*
Signature
Assab Singh
Name & Address

2. *Prasad*
Signature
Name & Address
MITESHWAR PRASAD

AKHIL SALES
House No. - 24
Kitab Bhawan Road
North S.K. Puri, PATNA-13.

Shankar
25/3/09
(Signature of Purchaser)

1. Signature
Ail Kr
25/3/09
Name & Address

2. Signature
Shankar
25/3/09
Name & Address

iii

For, Shahabad Eng neers Pvt. Ltd.

Yash
Director

Shankar
Chief Engineer (Elc)
Bihar State Hydroelec
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISES)

2ND FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. - 01/Elect/05-06 dated - 6.6.05

CONTRACT FOR

DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND
COMMISSIONING AND OPERATION & MAINTENANCE OF
TURBINES, GEAR BOX, GENERATORS AND AUXILIARIES
AND ALL OTHER ELECTROMECHANICAL EQUIPMENTS

OF

SHIRKHINDA S. H. P.
(2 x 350 KW)

BLOCK - NOKHA, DIST.-ROHTAS

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA



बिहार BIHAR

00AA 078152

This agreement made this6th..... Day of June... Two thousand and Five
 between **Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, B. C. Patel Marg, Patna** (hereinafter referred to as "Purchaser" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns of the one part and **M/s HPP ENERGY (India) PVT. LTD.** having its registered office at New Delhi (hereinafter referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successors administrator and assigns):

Whereas the Purchaser having been desirous of setting up of **SHIRKHINDA SMALL HYDEL PROJECT (2X350 KW)** at Nokha in the district of Rohtas (Bihar) has issued letter of intent vide letter no. 3144 dated 25.8.04 for the execution of Electrical/ Mechanical work of the project at a total cost of Rs. 3,57,45,000.00 (Rupees Three Crore fifty seven lakhs forty five thousand only) F.O.R. destination Firm price, hereinafter called contract price as per terms and conditions mentioned below.

[Signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna



[Signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

1. SCOPE OF WORK

Detailed design/Engineering manufacturing, supply, storage at site, erection, testing and commissioning of Electrical/Mechanical main generating equipment/auxiliaries (excluding switchyard, intake & D.T. gate, transformer and power evacuation system), inter-action and proper liaison with civil contractor for smooth and timely execution of the project and O & M for one year after successful commissioning in conformity with latest International and National standards.

2. PRICE :

S.No.	Description of Items	Qty	Total cost as quoted F.O.R. destination site excluding taxes/ duties etc. (Rs. in lakh)
A.	Price for supply of equipment		
01	Turbine 350 KW vertical semi Kaplan type with governor, OPU and other systems and accessories.	2 Sets	147.00
02	Synchronous Generator 350 KW 0.90 P.F. 415 V. 3 Phase 50 Hz with complete Brush less excitation and other accessories.	2 sets	43.00
03	Gear box complete with oil pumping & cooling unit.	2 Sets.	35.00
04	Cooling water system	2 Nos.	4.50
05	Station Drainage & Dewatering System.	1 Lot	4.50
06	Oil Purification/Filtration m/c	1 No.	2.75
07	75 KVA Diesel Generating set with control	1 No.	5.0
08	Station Auxiliary A.C. distribution Boards.	1 Lot.	2.50
09	L.T. distribution board with MCCBS CTs & relay etc with to incoming & one outgoing.	1 Set.	12.69
10	Air conditioning and ventilation system	1 Set.	0.88
11.	Fire protection system	1 Set	0.88

Handwritten signature
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 SOA, Bhubaneswar, Odisha



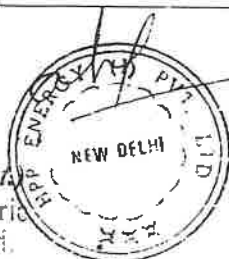
Handwritten signature
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

12.	Control metering & relay panels and UCB	2 Sets	31.00
13	415 V Switchgear including CTs, Relays etc.	1 set	7.50
14.	24 V Batteries having capacity 20 Am. with charger & DB	1 set	2.50
15.	EOT Crane (10 Ton)	1 No.	9.50
16.	Power & Control Cables	1 Lot.	10.50
17.	Lighting system including fitting	1 Lot.	3.50
18.	Earthing system for P.H. excluding embedded earth mat.	1 Lot.	1.75
19.	Mandatory spares	1 Lot.	9.50
Sub Total :			334.45

Total Cost

(B)	SCHEDULE OF ^ FOR ERECTION TESTING AND COMMISSIONING	
01	Turbine 350 KW Vertical/ semi Kaplan Type with Governor and other systems and accessories including cooling water, drainage & dewatering system etc.	5.00
02	Synchronous Generator 350 KW 0.9 PF, 415 Volts, 3 Phase 50 Hz with complete static excitation and other accessories	Included
03	Gear Box Complete.	Included
04	EOT Crane Complete.	Included
05	Air Conditioning and Ventilation system	Included
06	Fire Protection system	Included
07	Electrical auxiliaries	Included
08	Control Metering & Relay panels and UCB	Included
09	24V Batteries with Charger and DB	Included
10	415 V Switchgear including CTs, Relays etc.	Included

Handwritten Signature
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna




Handwritten Signature
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd. PATNA


11.	LT Distribution Board with MCCBs, CTs & Relays etc.	Included
12.	Power & Control Panels	Included
13.	Lighting system including fittings	Included
14.	Oil purification & filtration machine	Included
15.	Earthing i.e. equipment earthing system	Included
16.	Diesel generator (75 KVA)	Included
17.	Miscellaneous as required for completion of the E&M works	Included
	Sub Total	5.00
(C)	O & M FOR ONE YEAR	
01	One year O & M services	18.00
	Sub Total (Offer of the firms)	
	Total (A + B + C)	357.45
Rupees Three Crore fifty seven lac forty five thousand only		

Rs. 3,57,45,000.00 (Rupees Three Crore fifty seven lac forty five thousand) only FIRM F.O.R. destination. The taxes/ duties, levies shall be extra at actuals. The contractor will submit the break up of cost of each item as per schedule of requirement of BHPC.

3. TAXES & DUTIES

Taxes and duties viz sales tax, excise duty, local taxes and other levies as applicable on contract price in respect of transaction between the contractor and the BHPC which will be borne by BHPC as per actual. Income tax, however, shall be borne by the contractor.


Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Patna


Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

Agreement No. 32/1111/07-08 Dated 24.01.2008

Contract Agreement

Between

BHPC & M/s Associated Engineering Centre, Patna

**For the Design, Manufacture, Supply and Delivery of Switchyard
Equipment/Material at site and their Erection, Testing &
Commissioning for construction of 0.415/11 KV
Switchyard**

of

Shirkhinda (2 X 350 KW) SHP

certified copy

Gani Phara
Technical Secretary to Managing Director
BIHAR STATE HYDRO-ELECTRIC
POWER CORPORATION LTD
(Govt. of Bihar Undertaking)

**Bihar State Hydroelectric Power Corporation
(ISO 9001 : 2000 certified organisation)
Sone Bhawan, 2nd floor, B.C.Patel Marg, Patna -800 001.
Email : Pat_bshpc@dataone.in
Website: www.bshpcltd.com**

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

Handwritten signature

Handwritten signature

पचास
रुपया

₹ 50

FIFTY
RUPEES

Rs. 50

INDIA NON JUDICIAL

बिहार BIHAR

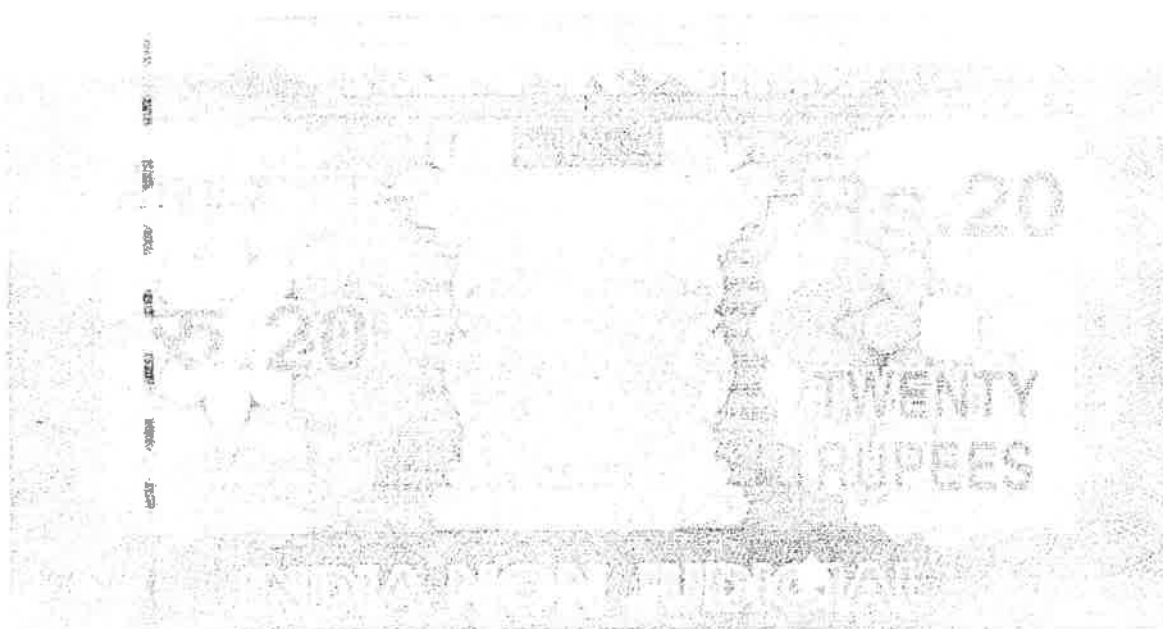
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1434 02 01-02-07 01-02-07
1434 02 01-02-07 01-02-07

Agreement No-5218 (Sone Bhawan) 1434-12-07-2006

CONTRACT AGREEMENT

This agreement made this Twenty Eight day of two thousand and eight between Bihar State Hydroelectric Power Corporation Ltd Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof include its successor administrator and assigns of the one part) and M/s Associated Engineering Centre having its registered office at Frazer Road, Patna (herein after referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns)

My
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



भारतीय मुद्रा और संचयन विभाग, नई दिल्ली

मूल्य: ₹ 20.00

24/07/07

20/07/07

भारतीय मुद्रा और संचयन विभाग, नई दिल्ली

Whereas the PURCHASER having been desirous of design manufacture, supply and delivery of switchyard equipment/material at site and their erection, testing and commissioning for construction of 0.415/11 KV switchyard, on turn-key basis at Shirkhinda (2 X 350 KW) SHP in Nokha Block under Rohtas District, has placed work order no.2586 dated 26.07.07 for execution of work at a total cost of Rs.23,91,625/- (Rupees twenty three lacs ninety one thousand six hundred twenty five) only F.O.R. The price is firm, inclusive of excise duty, Sales tax, Packing and forwarding, Insurance and freight charge upto site and exclusive of local taxes, hereinafter called contract price.

The CONTRACTOR has agreed to execute the above work, conforming with the provisions of general condition of N I T No 03/Elect/06-07 dated 27.04.06, L.O.I No -

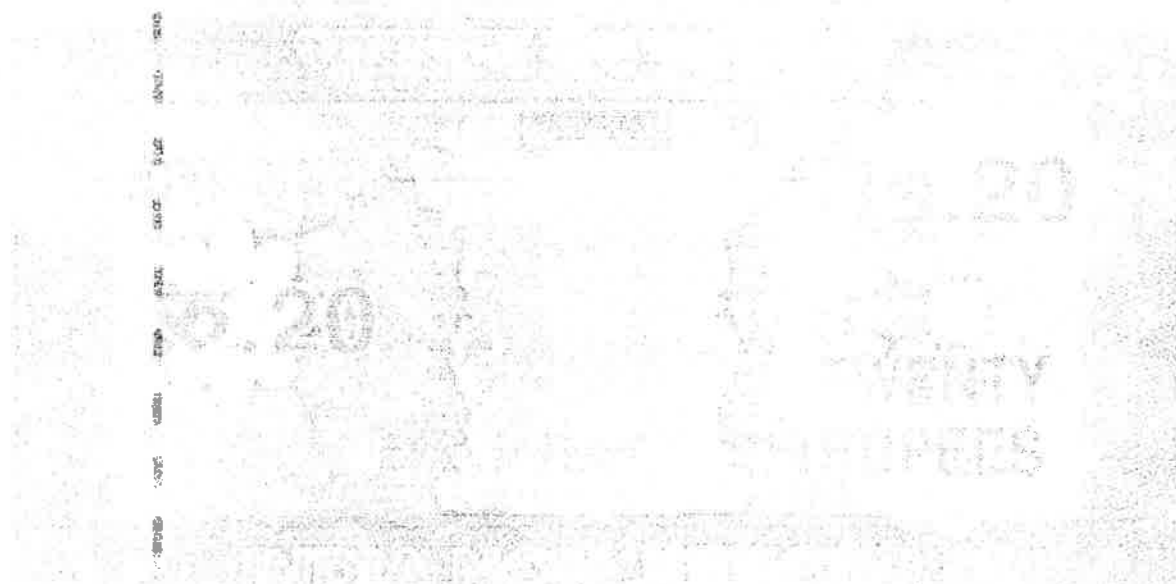
Handwritten signature
Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



2002 dated 07.06.07 work order no 2586 dated 26.07.07 and general terms and conditions of PURCHASER FORM an integral part of this contract and which has been annexed as Annexure - I, II, III & IV. All the terms and conditions as contained in these documents shall be a part of this agreement

The PURCHASER hereby agrees to pay to the contractor, on due performance of the contract price of Rs 23.91 625.00 (Rupees twenty three lacs ninety one thousand six hundred twenty five) only in accordance with terms and conditions of work order no. 2586 dated 26.07.2007

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



IN WITNESS WHEREOF the parties hereto have signed this agreement at Patna
on the dates, months and year mentioned against their respective signature

Signature

[Handwritten signature]

for and on behalf of CONTRACTOR

Witness-

(1) Signature *[Handwritten signature]*
9/2-33/2-5-10
4/1/1974/2/2
Name & Address

(2) Signature *[Handwritten signature]*
A K Singh, Shikhar Singh & Co. Patna
Dehri on Ganga
Name & Address

Signature

[Handwritten signature]

for and on behalf of PURCHASER

Witness-

(1) Signature *[Handwritten signature]*
NANI SHARM
Name & Address B H P C

(2) Signature *[Handwritten signature]*
G MALLIK
Name & Address B M P C

[Handwritten signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No.
Adm/EW/12-650/07-08

Dated Shabab-77

To,

M/s. Synergy Power Equipment Pvt. Ltd.,
Road no. 17, Jawahar Nagar,
Mango,
Jamshedpur.

Sub:- Order for design, manufacture, supply and supervision of erection, testing & commissioning of 1000 KVA, 11/0.415 KV Generator Main Transformer for Shirkhinda SHP.

- Ref:
1. This office NIT No. 02/Elect/06-07 dated 17.04.2006.
 2. Your offer no. SPE/BHPC/55/06 dated 23.05.2006.
 3. Your offer no. SPE/BHPC/288/06 dated 02.11.2006.
 4. This office letter no. 4390 dated 18.12.2006.
 5. Your letter no. SPE/BHPC/375/07 dated 10.01.2007
 6. This office letter no 941 dated 02.03.2007
 7. This office letter no. 1197 dated 23.03.2007
 8. Your letter no. SPE/BHPC/451/07 dated 30.03.2007
 9. This office letter no. 1474 dated 16.04.2007
 10. This office letter no. 1696 dated 09.05.2007
 11. Your offer no. SPE/BHPC/39/07-08 dated 26.04.2007
 12. This office letter no. 1843 dated 23.05.2007
 13. Your letter no. SPE/BHPC/89/07-08 dated 23.05.2007
 14. AHEC letter no. 3750 dated 20.06.2007

Sir,

Your attention is invited to correspondences cited above.

The undersigned is pleased to place an order on you for design, manufacturing and supply of 1000 KVA, 11/0.415 KV Generator Transformer for Shirkhinda SHP on rate and terms and condition given below:-

(1) Scope of work -

- (i) Design, manufacture, supply of 1000 KVA 11/0.415 KV Generator Main Transformer outdoor type, oil filled, cooling-ONAN, Vector group Ynd-11 with brought out terminal connection and all auxiliary, relay & protection system.
- (ii) Supervision of erection, testing and commissioning of above transformer.

- (2) Price - Rs. 10.455 lacs (Rupees ten lacs forty five thousand five hundred) only as detailed below:-

Sl. No.	Description	M/s Synergy Power equipment Pvt. Ltd.
1.	Revised Ex-work price	8.50 ✓
2.	Excise duty	1.401 ✓
3.	Sales Tax	0.297 ✓
4.	Packing & forwarding per unit	0.03 ✓
5.	Insurance charges	0.03 ✓
6.	Freight charge	0.07 ✓
✓ 7.	Handing charges & Transportation upto site	0.01 ✓

Chief Engineer (Gen.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

8.	Service charges	0.017 ✓
9.	Supervision of erection, testing & commissioning charges	0.1 ✓
	TOTAL	10.455

The above price is inclusive of Sales Tax excise duty, packing, forwarding, service charge and supervision of erection, testing & commissioning.

(3) Price variation-

This shall be governed by IEEMA circular no. IEEMA /PVC/Dist - CU/2003 dated 01.6.03 subject to the provision of clause no. 1.14.2 of General Terms & condition of BHPC.

(4) Freight & Insurance-

Included in price as at sl.-2.

(5) Completion Period-

4 months from the date of 1st mobilization advance.

(6) Payment Terms-

(A) Supply-

(i) Mobilization advance equivalent to 5% of Ex-works price of generator main transformer against equal amount of guarantee shall be released after receipt of following drawings and execution of agreement-

- (a) General arrangement drawing of generator main transformer
- (b) Detailed drawing of bushing.
- (c) Rating and diagram plate drawing.
- (d) Detail structure drawing for conservator, radiator etc.
- (e) Dimensional drawing for foundation and multi bolt bimetallic contact.

(ii) Further 5% advance of ex-work price of generator main transformer shall be released after approval of all drawings mentioned above against equal amount of guarantee.

(iii) 70% payment of ex-work price plus 100% tax & duties less proportioned advance against proof of dispatch document through State Bank of India, Dehri-on-Sone.

(iv) 10% payment less proportioned advance after receipt and acceptance generator main transformer at site.

(v) 20% payment less proportioned advance after commissioning of generator main transformer.

(B) Supervision of erection, testing & commissioning-

This shall be paid after commissioning of the transformer against verified bill by the Work Incharge.

(C) Guarantee

(i) The above mentioned mobilization advances describing (A) shall be given against irrevocable Bank Guarantee of equivalent amounts issued by a nationalized bank. Alternatively, in special circumstances, if specifically agreed to by the Corporation, Corporate Guarantee shall be acceptable against the mobilization advances. But, the mobilization advances made against Corporate Guarantee shall carry a simple interest @ 3.0% per annum on the balance amount of advances standing with the contractor from the date of payment till the same is fully adjusted/recovered.

[397]

Agreement No. 24/Elect/07-08 Dated 04-01-2008

Contract Agreement

Between

BHPC & M/s Synergy Power Equipment Pvt. Ltd.

**for the Design, Manufacture, Supply and Supervision of Erection,
Testing & Commissioning of 100 KVA & 83 KVA 0.415/0.415 KV
Station Auxiliary Transformer**

of

**Tejpura, Sebari, Shirkhinda, Paharma, Rajapur, Walidad, Amethi,
Rampur, Arwal & Natwar SHPs.**

**Bihar State Hydroelectric Power Corporation
(ISO 9001 : 2000 certified organisation)**

Sone Bhawan, 2nd floor, B.C. Patel Marg, Patna - 800 001

Email : Pat_bshpc@dataone.in

Website: www.bshpc Ltd.com

Technical Officer to M/s Synergy Power Equipment Pvt. Ltd.
BIHAR STATE HYDRO ELECTRIC
POWER CORPORATION LTD.
(Govt. of Bihar Undertaking)

**Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1**

Patna, the

Patna, the

Patna, the

To

M/s Synergy Power Equipment Pvt Ltd
17 Jawahar Nagar, Mangr
Jamshedpur - 832 116

Fax No 0057 2480094

Sub:- Order for design, manufacturing and supply of 100 KVA & 63 KVA
Station Auxiliary Transformers for Tejpura, Sebari, Shirkhinda, Walidad,
Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs.

Ref:- i) This office N.I.T No.07/Elect/06-07 dated 21.12.2006.
ii) Your offer no. SPE/BHPC/06/07-08 dated 07.04.2007.
iii) AHEC, letter no. 2179 dated 21.05.07.
iv) This office letter no. 2010 dated 07.06.2007.
v) Your letter no. SPE/BHPC/128/07-08 dated 13.08.2007.
vi) This office letter no.2473 dated 19.07.2007.
vii) AHEC, letter no.4203 dated 17.08.2007.
viii) This office letter no.2890 dated 22.08.2007.
ix) Your letter no. Nil dated 30.08.2007

Sir,

Kindly refer to the above correspondences

The undersigned is pleased to place an order on you for design, manufacturing supply and supervision at erection, testing and commissioning of 100 KVA and 63 KVA Station Auxiliary Transformer for Tejpura, Sebari, Shirkhinda, Walidad, Arwal, Rampur, Paharma, Natwar, Amethi and Rajapur SHPs on rate and terms and condition given below:-

(1) Scope of Work:-

(i) Design manufacturing supply and supervision of erection, testing and commissioning of 100 KVA, 0.415/0.415kV, out door type oil filled cooling ONAN vector group Dyn-I.

(ii) Design, manufacturing, supply and supervision of erection, testing and commissioning of 63 KVA 0.415/0.415KV out door type oil filled cooling ONAN vector group -Dyn -I.

(2) Price : Rs 17,06,428.42 (Rupees seventeen lacs six thousand four hundred twenty eight & paise forty two) only as per the details given below -

Sl.No.	Description	Qty.	Unit Price	Amount (in Rupees)
1	Design, manufacturing, supply and supervision of erection, testing and commissioning of 100 KVA Station Auxiliary Transformer for Tejpura, Sebari, shirkhinda, Paharma, Rajapur and Walidad SHPs alongwith Mandatory Spare tools and tackles	6 Nos	1,88,560.07	11,31,360.42

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Sample and Spare Parts
Mandatory Spare Parts

Total - 17.06.42H.47

Price breakup alongwith list of Mandatory spare and tools and tackles are enclosed as Annexure I

The above price is inclusive of packing, forwarding, sales tax, excise duties, service tax, supervision of erection, testing and commissioning cost of Mandatory spare and tools & tackles.

Price variation-

- (3) This shall be governed by IEEMA Circular No IEEMA/PVC/PCs-CU/2003 subject to the provision of clause no 1.14.2 of General terms and condition of BHP.

Freight & Insurance-

- (4) Included in price at sl no -2

Completion Period-

- (5) 4 months from the date of 1st mobilization advance

Payment Terms-

(6)

A Supply:

(i)

Mobilization advance equivalent to 5% of Ex-works price of Station Auxiliary transformer against equal amount of Bank guarantee shall be released after receipt of following drawings and execution of agreement-

- (a) General arrangement drawing of Station Auxiliary transformer
(b) Detailed drawing of bushing
(c) Rating and diagram plate drawing
(d) Detail structure drawing for conservator, radiator etc
(e) Dimensional drawing for foundation
(f) Assembly drawing of the Transformer

(ii)

Further 5% advance of ex-work price of Station Auxiliary transformer shall be released after approval of all drawings mentioned above against equal amount of Bank guarantee issued by the Nationalize Bank.

(iii)

70% payment of ex-work price plus 100% tax & duties less proportionate advance against proof of dispatch document through State Bank of India, Dehn.

(iv)

10% payment less proportionate advance after receipt and acceptance station auxiliary transformer at site.

(v)

20% payment less proportionate advance after successful commissioning and acceptance of station auxiliary transformer.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna.

402

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.
(A GOVT. OF BIHAR ENTERPRISES)

2ND FLOOR, SONE BHAWAN
PATNA

AGREEMENT NO. - 01/Civil/2005-06 dated - 27-06-05

CONTRACT FOR
**SURVEY, DESIGN, DRAWING, CONSTRUCTION
OF CIVIL WORKS OF POWER HOUSE AND
ALLIED STRUCTURES**

**FOR
SHIRKHANDA SMALL HYDEL PROJECT
(2 x 350 KW)**

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

JAMSHEDPUR

certified copy
Handwritten signature
07/07/05
Superintendent Engineer (Civil)
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Handwritten signature
Director

Handwritten signature
Keshav Chandra Pathak
Deputy Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.

CONTENT

Sl. No.	Item	Page No.
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2.	Special Condition of Contract	I - 1 to I - 4
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4.	General Condition of Contract	III - 1 to III - 54
5.	Technical Specification	IV - 1 to IV - 66
6.	Correspondences	
7.	Drawings	
8.	Annexure	

16/4
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For Shalimar Engineers Pvt. Ltd.

[Signature]
Director.

12/4/20
Deputy Chief Engineer (Civil)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna



AGREEMENT NO. 01/CEVZ/2005-06
dated 27.06.2005

This agreement made this 27th day of June two thousand and five between Bihar State Hydroelectric Power Corporation Limited, Patna (hereinafter referred to as 'Purchaser' which expression shall unless repugnant to the context or meaning thereof, includes its successors, administrators and assigns) of the one part and M/s Sahabad Engineers Pvt. Ltd. having its office at Road No. 17, Jawaharnagar Mango, Jamshedpur hereinafter referred to as the 'Contractor' which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) of the other part Bihar State Hydroelectric Power Corporation, Sone Bhawan, B. C. Patel Marg, Patna.

Whereas, the purchaser having been desirous of setting up of SHIRKHINDA SHP (2 x 350 KW) at SHIRKHINDA in the District of ROHTAS has issued letter of Intent vide letter no. 2115 dated 18.6.04 for the execution of the Project at a total cost of Rs. 1,40,38,581/- (Rupees One crores forty lac thirty eight thousand five hundred eighty one) only (hereinafter called the contract price) as per terms and conditions mentioned below:

Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

[Signature]
Director

[Signature]
(K. K. Pruthi)
Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Corporation Ltd.

1. **Scope of work :**

Investigation, planning, survey, design, preparation of drawing, construction of civil and allied structures of power channel, power house, intake pool, tail pool, tail race channel conforming to the design of electrical / mechanical supplier of SHIRKHINDA SHP.

2. **PRICE :**

Sl.	Item of work	Amount (Rs.)
1.	Preliminary	6,79,000.00
2.	Excavation of power channel	7,78,440.00
3.	Cost of S.L.R Bridge on power channel	8,35,870.00
4.	Cost of S.L.R Bridge on Tail race channel	8,35,870.00
5.	Cost of Lining of power channel	5,62,950.00
6.	Excavation of Tail race channel	3,09,200.00
7.	Construction of power house	77,52,366.00
8.	Lining of tail race channel	7,14,425.00
9.	Construction of D.L.R Bridge on power channel	15,70,460.00
Total :		1,40,38,581.00
(Rupees one crore forty lakhs thirty eight thousand five hundred eighty one only.)		

4. That in consideration of the payment of Rs. 1,40,38,581/- (Rupees One crore forty lac thirty eight thousand five hundred eighty one only) to be made by the purchaser the contractor shall execute the work and shall do and perform all works, remedy defects and do things specified in the contract mentioned or described therein, within and at the time prescribed and in the manner and subject to the terms and conditions stipulated and mentioned hereinafter and more particularly described under :

Chief Engineer (Electric)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

For Shahabad Engineers Pvt. Ltd.

Director.

Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

1. BHPC letter no. 3421 dated 20.11.03
 2. Shahabad Engineers Pvt. Ltd. letter no. SEPL/DHR/133/03 dated 25.11.03
 3. BHPC Letter no. 3912 dated 17.12.03
 4. Letter no. SEPL/DHR/2003-04/139 dated 29.12.04
 5. BHPC letter no. 3131 dated 24.08.04
 6. Letter no. Camp-Patna dated 24.08.04 of M/s Sahabad Engineers Pvt. Ltd.
 7. Letter No. SE/AKS/159/04-05 dated 22.6.04 of M/s Sahabad Engineers Pvt. Ltd.
 8. Letter No. 1428 dt. 28.04.04 of BHPC.
 9. Letter no. 1439 dt. 29.04.04 of BHPC.
 10. Letter No. SE/AKS/41/04 dated 4.5.2004 of M/s Shahabad Engineers Pvt. Ltd.
 11. Letter no. 1671 dated 29.5.04 of BHPC
 12. L.O.I. no. 2115 dated 18.06.04.
6. And whereas the contractor has accepted the L.O.I. under reference as stated in the preceding paragraphs on the terms and subject to the conditions agreed/conveyed in subsequent discussions and correspondences including those mentioned in para – 5 above.

In witness whereof the parties hereto have signed this agreement and put their seal at Patna on the dates, months and year mentioned here-in-above.

NAME & SIGNATURE OF WITNESS

1. Signature *[Signature]*
Name & Address *[Signature]* *Shri. J. K. Singh*
The Baghluo street
Patna-23
2. Signature *[Signature]*
Name & Address *Gandhi Memorial Panchayat*
Patna-23
1. Signature *[Signature]*
Name & Address *4th Street*
Patna-23

For Shahabad Engineers Pvt. Ltd.

[Signature]
Director,
(Signature of Contractor)

[Signature] *27/6/05*
(Signature of Purchaser)
(K. K. Pathak)
Deputy Chief Engineer (Civil)
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

[Signature]
Chief Engineer (Electrical)
Bihar State Hydro Electric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Signature *[Signature]*
Name & Address *E.E. (Civil)*

For Shahabad Engineers Pvt. Ltd.
[Signature]
Director.

Agreement No.- 22/Elect/07-08

Dated- 27.12.2007

Contract Agreement

Between

BHPC & M/s Synergy Power Equipment Pvt. Ltd.

**for the Design, Manufacture, Supply & Supervision of Erection,
Testing & Commissioning of 1500 KVA 11/0.415 KV
Generator Main Transformer**

of

Belsar SHP (2 X 500 KW)

Technical Secretary to Managing Director
BIHAR STATE HYDRO ELECTRIC
POWER CORPORATION LTD.
(Govt. of Bihar Undertaking)

Bihar State Hydroelectric Power Corporation
(An/ISO 9001 : 2000 certified organisation)
Sone Bhawan, 2nd floor, B.C.Patel Marg, Patna - 800 001.
Email : Pat_bshpc@dataone.in
Website: www. bshpcltd. com

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

M/s, Synergy Power Equipment Pvt. Ltd.

Director

Director

For, Synergy Power Equipment Pvt Ltd

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



2019 ति 27/12/07
क्र. 28/87
नाम एवं प.

वास्त.

A 958431

रमेश प्रसाद राम
L No. 28/87
हाई कोर्ट पटना

Agreement No 22/Elect/07-08 dt 27.12.2007

CONTRACT AGREEMENT

This agreement made this December 27th day of two thousand and seven between Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof includes its successor administrator and assigns of the one part) and M/s Synergy Power Equipment Pvt. Ltd., Road No. 17, Jawahar Nagar, Mango, Jamshedpur (herein after referred to as the contractor which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns).

For, Synergy Power Equipment Pvt. Ltd.

Director

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



बिहार BIHAR

01AA 388252



[Handwritten signature]
 11/07
 पूर्व जोड़ वार

Where as the PURCHASER having been desirous for design, manufacture, supply and supervision of erection, testing and commissioning of 1500 KVA 11/0.415 KV generator main transformer, (out door type, Oil filled cooling ONAN with all auxiliary relay and protection systems) for Belsar SHP (2 X 500 KW) has placed work order no.3716 dated 08.11.07 for execution of work at a total cost of Rs.12.299 lacs (Rupees twelve lacs twenty nine thousand nine hundred) only F.O.R. site inclusive of excise duty, Sales tax, Packing and forwarding, Insurance freight charge upto site and exclusive of local taxes herein after and contract price. Price variation shall be governed by IEEMA circular No.- IEEMA/P/2003 dated 1st June, 2003 subject to the provision at clause no.- 1.14.2 of general terms and condition of PURCHASER.

For, Synergy Power Equip

[Handwritten signature]
 Chief Engin
 Bihar State E
 Power Corp
 Sone Bhaw

[Handwritten signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

भारतीय गैर न्यायिक

बीस रुपये

रु. 20

Rs. 20

TWENTY
RUPEES

INDIA

INDIA NON JUDICIAL

बिहार BIHAR

01AA 38825



The CONTRACTOR has agreed to execute the above work, confirming with the provision of general condition of NIT No.02/Elect/06-07 dated 17.04.06, this office letter no.1474 dated 16.04.2007, work order no. 3716 dated 08.11.07 and general terms and condition of PURCHASER which FORM an integral part of this contract and which has been annexed as Annexure I, II, III & IV and all the terms and conditions as contained in these documents shall be a part of this agreement.

The PURCHASER hereby agrees to pay to the contractor on due performance of this contract by the CONTRACTOR, the price of Rs.12.299 lacs (Rupees twelve lacs twenty nine thousand nine hundred) only in accordance with the terms and condition specified in the work order no. 3716 dated 08.11.2007.

For, Synergy Power Equipment Pvt. Ltd.

Director
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

Chief Engineer (Elect)
B.P. Pow
Sona Bhandari, J. and

भारतीय गैर न्यायिक

बीस रुपये

रु. 20

Rs. 20

TWENTY
RUPEES

INDIA

INDIA NON JUDICIAL

बिहार BIHAR

१०८८८ तिथि..... .. मुख्य .. बास्का
काष्ठ एवं पत्त ..

01AA 388254



रमेश कुमार राय
L No. 28/87
हाई कोर्ट पटना

IN WITNESS WHEREOF the parties hereto have signed this agreement at Patna

on the dates months and year mentioned against their respective signature.

Synergy Power Equipment Pvt. Ltd.

Signature

[Signature]

Director

for and on behalf of CONTRACTOR

Witness-

(1) Signature *[Signature]* (1)

Name & Address

५१११११ १११११ १११११

(2) Signature *[Signature]* (2)

Name & Address

AKASH SALES
24, Kirtal Bhawan Rd
North S. K. Road
Patna - 13.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan Patna.

Chief Engineer (Elect.)
Signature *[Signature]*
Bihar State Hydroelectric
Power Corporation Ltd
for and on behalf of PURCHASER:
Sone Bhawan, Patna-1

Witness-

Signature *[Signature]*
MANI SITA RAM
Bihar, Patna
Name & Address

(2) Signature *[Signature]*
Name & Address
SEC, BHP
Patna

Chief Engineer (Elect.)
Bihar
Pow
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No. 3716
Adm/EW/12-635/03-07

M/S. (P)/P-63
Dated 5.10.07

To,

M/s. Synergy Power Equipment Pvt. Ltd.,
Road no. 17, Jawahar Nagar,
Mango
Jamsilpur.

Subj: Design, manufacture, supply and supervision of erection, testing & commissioning of 1500 KVA, 11/0.415 KV Generator Main Transformer for Belsar SHP.

- Ref:
1. This office NIT No. 02/Elect/06-07 dated 17.04.2006.
 2. Your offer no. SPE/BHPC/55/06 dated 23.05.2006.
 3. Your offer no. SPE/BHPC/288/06 dated 02.11.2006.
 4. This office letter no. 4390 dated 18.12.2006.
 5. Your letter no. SPE/BHPC/375/07 dated 10.01.2007.
 6. This office letter no 941 dated 02.03.2007.
 7. This office letter no. 1197 dated 23.03.2007.
 8. Your letter no. SPE/BHPC/451/07 dated 30.03.2007.
 9. This office letter no. 1474 dated 16.04.2007.
 10. This office letter no. 1696 dated 09.05.2007.
 11. Your offer no. SPE/BHPC/39/07-08 dated 26.04.2007.
 12. This office letter no. 1843 dated 23.05.2007.
 13. Your letter no. SPE/BHPC/89/07-08 dated 23.05.2007.
 14. AHEC letter no. 3750 dated 20.06.2007.

Sir,

Your attention is invited to correspondences cited above.

The undersigned is pleased to place an order on you for design, manufacturing and supply of 1500 KVA, 11/0.415 KV Generator Transformer for Belsar SHP on rate and terms and condition given below:-

(1) Scope of work -

- (i) Design, manufacture, supply of 1500 KVA 11/0.415 KV Generator Main Transformer outdoor type, oil filled, cooling-ONAN, Vector group Ynd-11 with brought out terminal connection and all auxiliary, relay & protection system.
- (ii) Supervision of erection, testing and commissioning of above transformer.

(2) Price - Rs. 12.299 lacs (Rupees twelve lacs twenty nine thousand nine hundred) only as detailed below:-

Director

W. J.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan

W. J.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Sl No	Description	M/s Synergy Power Equipment Pvt. Ltd. (Rs. in Lac)
1	Revised Ex-work price	10.00
2	Excise duty	1.648
3	Sales Tax	0.349
4	Packing & forwarding per unit	0.04
5	Insurance charges	0.04
6	Freight charge	0.09
7	Handling charges & Transportation upto site	0.01
8	Service charges	0.022
9	Supervision of erection, testing & commissioning charges	0.1
	TOTAL	12.299

The above price is inclusive of Sales Tax, Excise duty, packing, forwarding, insurance charge, freight charge, service charge and supervision of erection, testing & commissioning.

(3) Price variation-

This shall be governed by IEEMA circular no IEEMA /PVC/Dist-CV/2003 with base dated 01.06.2003 subject to provision of clause no. 1.14.2 of General Terms & Condition of BHPC. Copy enclosed as Annexure-I.

(4) Freight & Insurance-

Included in price as at sl.-2.

(5) Completion Period-

4 months from the date of 1st mobilization advance.

(6) Payment Terms-

(A) Supply-

- (i) Mobilization advance equivalent to 5% of Ex-works price of generator main transformer against equal amount of guarantee shall be released after receipt of following drawings and execution of agreement-

- General arrangement drawing of generator main transformer
- Detailed drawing of bushing.
- Rating and diagram plate drawing.
- Detail structure drawing for conservator, radiator etc
- Dimensional drawing for foundation and multi bolt bimetallic contact.

- (ii) Further 5% advance of ex-work price of generator main transformer shall be released after approval of all drawings mentioned above against equal amount of guarantee

M/s Synergy Power Equipment Pvt. Ltd.
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Soane Bhawan, Patna

- (iii) 70% payment of ex-work price plus 100% tax & duties less proportioned advance against proof of dispatch document through Punjab National Bank, Barun.
- (iv) 10% payment less proportionate advance after receipt and acceptance generator main transformer at site.
- (v) 20% payment less proportionate advance after commissioning of generator main transformer.

(B) Supervision of erection, testing & commissioning-

This shall be paid after commissioning of the transformer against verified bill by the Work Incharge.

(C) Guarantee-

- (i) The above mentioned mobilization advances describing (A) shall be given against irrevocable Bank Guarantee of equivalent amounts issued by a nationalized bank. Alternatively, in special circumstances, if specifically agreed to by the Corporation, Corporate Guarantee shall be acceptable against the mobilization advances. But, the mobilization advances made against Corporate Guarantee shall carry a simple interest @ 3.0% per annum on the balance amount of advances standing with the contractor from the date of payment till the same is fully adjusted/recovered.

The Bank Guarantee or Corporate Guarantee shall be furnished by the contractor in the formats prescribed by the corporation.

- (ii) Corporate Guarantee shall be accepted provided the same is supported with current income tax clearance certificate and the audited balance sheet of the financial year previous to the date of guarantee, to the satisfaction of the Corporation.

The corporate guarantee shall be further supported by an affidavit duly sworn and solemnly affirmed by the contractor in the prescribed format on appropriate amount of stamp paper indemnifying the corporation against any financial losses on this count.

(7) Contract Performance Guarantee-

All equipment/material/work shall be guarantee for 15 (fifteen) months from the date of commissioning for which a Bank Guarantee for 10% of the contract price of electrical equipment will be submitted by you. The Bank guarantee shall be furnished on or before claiming 20% (twenty percent) payment.

Director

Chief Engineer (Elect.)
Hydro Electric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Agreement No 04/E/2009-10

Date 08/01/2010



CONTRACT AGREEMENT

BETWEEN

**BIHAR STATE HYDRO ELECTRIC POWER
CORPORATION LTD**

&

M/S SYNERGY POWER EQUIPMENT PVT. LTD.

ROAD NO.17, JAWAHAR NAGAR, MANGO

JAMSHEDPUR

FOR

Supply and supervision of erection testing and commissioning One
No. 100 K.V.A. 0.415/0.415 station Auxiliary Transformer
(Out door type, Oil filled cooling ONAN vector group
Dyn-1) of Belsar SHP

Bihar State Hydroelectric (ISO9001:200 certified organization)

Sone Bhawan, 2nd Floor, B.C. Patel Marg-800001

Email: patbshpc@dataone.in

Website: www.bshpcltd.com

[Signature]

[Signature]
Chief Engineer (Electric)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Signature]

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna



बिहार BIHAR

क्रमांक 14940 दिनांक 7.1.10 मूल्य 100 शीट नं. 2 प्रतिलिपि
 क्रेता का नाम एवं पता श्री. अमरेंद्र कुमार सिन्हा, मुद्रक विक्रेता
 ला० सं०-37/87 निबंधन कार्यालय, पटना

अमरेंद्र कुमार सिन्हा, मुद्रक विक्रेता
 ला० सं०-37/87 निबंधन कार्यालय, पटना

(1)

I.J./Agreement/56

This agreement made this 8th (Eighth) day of January two thousand and 2010 between Bihar State Hydroelectric Power Corporation Ltd., Sone Bhawan, Birchand Patel Marg, Patna (hereinafter referred to as "PURCHASER" which expression shall unless repugnant to the context or meaning thereof includes its successor administrator and assigns of the one part) and M/s Synergy Power Equipment Pvt. Ltd., Road No. 17, Jawahar Nagar, Mango, Jamshedpur (herein after referred to as the contractor represented through its Director Sri Ajay Kumar Singh, S/o Late Jwala Singh, Road No.17, Jawahar Nagar, Mango, Jamshedpur which expression shall unless repugnant to the context or meaning thereof includes its successor administrator or assigns).

Whereas the PURCHASER having been desirous of purchasing one 100 KVA 0.415/0.415 KV Station Auxiliary Transformer (out door type, oil

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

Signature
 Date
 Place

terms and conditions as contained in these documents shall be a part of the agreement.

The PURCHASER hereby agrees to pay to the CONTRACTOR on due performance of the contract by the contractor, the price of Rs.1,86,577.00 (Rupees one lac eighty six thousand five hundred seventy seven) only plus PV in accordance with the terms and conditions of work order no. 1629 dated 11.05.2009.

IN WITNESS WHEREOF the parties hereto have signed this agreement at Patna on the dates months and year mentioned against their respective signature.

Signature

for and on behalf of CONTRACTOR

Witness-

(1) M/

Signature

Name & Address

(2)

Signature

Name & Address

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bane Bihawan, Patna-1

Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

Signature

for and on behalf of PURCHASER

Witness-

(1)

Signature

Name & Address

(2)

Signature

Name & Address

SANJEEV SINGH
BHPC

BIHAR STATE HYDROELECTRIC POWER CORP. LTD.

(A GOVT. OF BIHAR ENTERPRISE)

(ISO - 9001-2000 Certified Organisation)

2ND FLOOR, SONE BHAWAN

PATNA

AGREEMENT NO. I/Elect./06-07 dated 3/4/2006

CONTRACT FOR

SUPPLY, ERECTION, TESTING & COMMISSIONING
OF HYDRO GENERATING SETS COMPLETE WITH
AUXILIARIES ALONG WITH CIVILWORKS

ON
TURN KEY BASIS

certified copy
H. D. S. S.
7/4/06
प्रमुख प्रबंधक (वि.सं.)
बी. एच. पा. सो.
खोस भवन, स्टग - 1

FOR

BELSAR SMALL HYDEL PROJECT
(2 x 500 KW)

Manj
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

Sanj
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

DIST. - ARRAVAL (BIHAR)

M/s. M.K. Enterprises
Patna
PARTN



792105

AGREEMENT

THIS AGREEMENT made this Third day of April, 2006 BETWEEN
Bihar State Hydroelectric Power Corporation Limited, Patna, having
 its registered office at Sone Bhawan, Birchand Patel Marg, Patna-1
 (hereinafter referred to as 'Purchaser' or 'BHPC' which expression shall
 unless repugnant to the context or meaning thereof include its
 successors, administrators and assigns) of the ONE PART and **M/s. M.K.
 Enterprises, Sansaraiya, Bettiah-845438** (Distt. West
 Champaran) having its registered office at Mahawat Toli, Bettiah-
 845438 (hereinafter referred to as the 'Contractor' which expression shall
 unless repugnant to the context or meaning thereof includes its
 successors, administrators, and assigns) of the OTHER PART.

Whereas, the purchaser having been desirous of setting up of
Belsar small Hydel project (2x500kw) at Belsar in the District of
 Arwal (Bihar) has issued letter of intent vide letter No. 2863 dated
 10.2005 for the execution of the project on turn key basis at a total
 cost of **Rs. 8,35,90,174.00** (Rupees Eight Crore Thirty Five Lacs
 Ninety thousand One hundred seventy four) only

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

M/s M. K. Enterprises
 Bettiah, Champaran



BIHAR

सूत्र नं० - ५८
सिद्धांत - १२
मार्ग - ४३
सूर्य राशि प्रमाण

M/s M. K. Enterprises
Ved Mamankar
PARTNER.

भारतीय गैर न्यायिक

पचास
रुपये

रु.50



FIFTY
RUPEES

Rs.50

INDIA NON JUDICIAL

बिहार BIHAR

792106

(hereinafter referred to the 'contract' price as per terms and conditions mentioned below :

1. **Scope of Work :**

Pre-construction, detailed survey, design, supply and construction /manufacture of all civil and E/M equipments, its auxiliaries, spares accessories, consumables, including power evacuation system for erection, testing, commissioning, power generation transmission and also operation and maintenance of the system for one year after successful commissioning of Belsar SHP (2x500KW), all complete job on turn key basis

Price :

The total price of this turn key project for the entire scope of work shall be Rs. 8,35,90,174 (Rupees Eight Crore Thrity five lacs ninety thousand one hundred seventy four) only.

May 1981
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

- (d) To arrange for construction machinery.
- (ii) Advance equivalent to 5% of the total value of the order (minus O&M charges for one year) against equal amount of irrevocable Bank Guarantee by a nationalized bank after completing works mentioned in (i) above for —
- (a) Undertaking detailed design and engineering of civil works, and submission of the design and drawings to AHEC, Roorkee and approval thereof.
- (b) Starting excavation work of Power House.
- (c) Preparation of detailed specification and drawing of E/M equipments, single line diagram and submission of the same to AHEC, Roorkee and approval thereof.
- (iii) Advance equivalent to 10% of the total value of the order (minus (O&M) charges for one year) against equal amount of irrevocable Bank Guarantee by a nationalized bank after completion of works covered by (ii) above for —
- (a) Starting civil works on all fronts.
- (b) Manufacture and supply of E/M equipment.

(B) Civil work :

100% payment, less proportionate advance against each running bill duly verified by site Engineer as per actual progress of work.

Electrical/Mechanical Equipments :

80% payment, less proportionate advances, against proof of dispatch documents negotiable through Bank.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bane Bhawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., Patna

M. K. L. S. Chief Eng
Bihar State
Power Corporation Ltd.
Bane Bhawan, Patna-1

Above Prices are FIRM, F.O.R. site inclusive of packing/forwarding, freight & Insurance but exclusive Taxes, duties & levies.

3. TAXES & DUTIES

The FIRM contract prices, F.O.R. destination, are exclusive of Sales Tax/ duties/ levies etc. on Electrical/Mechanical equipment which will be charged extra at rates prevailing at the time of dispatch. The Central Sales Tax at concessional rate will be charged on Electrical/Mechanical equipment against form 'C' to be furnished by the purchaser.

4. DEDUCTION OF SALES TAX & INCOME TAX :

Sales tax and income tax will be deducted as per statutory provision for deduction of the same on work contract.

Royalty and cess will be paid by the contractor.

5. Terms of Payment :

(A) Advance :

- (i) Mobilization advance equivalent to 5% of the total value of the order (minus operation and maintenance charges for one year) against equal amount of irrevocable Bank Guarantee by a Nationalized Bank on execution of agreement for :

- (a) Mobilizing site facilities for starting the work.
- (b) Starting detailed alignment, survey of power channel, power house, tailrace channel including dog belling, fixation of pillars and bench mark, digging test pits for geological and geo-technical tests, bearing pressure test, earth resistivity test and other Soil/Water test.

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd. PATNA

- (c) — Placing orders for Electrical/Mechanical equipments.

[Signature]
M. K. Enterprises

11. Warranty & Maintenance :

Warranty of the equipment shall be for a period of 12 (twelve) calendar months commencing immediately from the date of commissioning of each generating equipment/unit.

12. Freight and Insurance :

Freight and insurance charges incurred on the transportation, storage at site, erection, testing & commissioning of Electrical / Mechanical equipments will have to be borne by the contractor.

AND WHEREAS the 'Contractor' has accepted the L.O.I. under reference as stated in the preceding paragraphs on the terms and conditions agreed/conveyed in subsequent discussions and correspondences including the following :-

- (i) Purchaser's NIT no. 13/Elect/03-04 dated 13.03.04
- (ii) Contractor's letter no. 21 dated 07.06.04
- (iii) Contractor's letter no. 61 dated 14.08.04
- (iv) Purchaser's letter no. 2280 dated 26.06.04
- (v) Contractor's letter no. 53 dated 03.07.04
- (vi) Contractor's letter no. 57 dated 17.07.04
- (vii) Purchaser's letter no. 2769 dated 26.07.04
- (viii) Contractor's no. 60 dated 02.07.04
- (ix) AHEC letter no. AHEC/C-195/V/4218 dated 04.09.04
- (x) Purchaser's letter no. 3321 dated 05.09.04
- (xi) Contractor's letter no. 64 dated 27.09.04
- (xii) AHEC letter no. AHEC/C-195/V-4899 dated 19.10.04
- (xiii) AHEC letter no. AHEC/C-195/V/5127 dated 03.11.04
- (xiv) Purchaser's letter no. 3895 dated 22.11.04
- (xv) Contractor's letter no. 65 dated 29.11.04

My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

M/s M. K. Enterprises
PARTNER

- (xvi) AHEC letter no. AHEC/C-195/V/85/dated 6/7.01.05
- (xvii) Purchaser's letter no. 813 dated 28.04.05
- (xviii) Contractor's letter no. 81 dated 21.05.05
- (xix) Purchaser's letter no. 1909 dated 28.07.05
- (xx) Contractor's letter no. 93 dated 19.09.05
- (xxi) Purchaser's LOI vide letter no. 2863 dated 31.10.05
- (xxii) Contractor's letter no. 94 dated 09.11.05
- (xxiii) Purchaser's letter no. 989 dated 18.03.06
- (xxiv) Purchaser's letter no. 997 dated 20.03.06
- (xxv) Contractor's letter no. - 131 dated 23.03.06
- (xxvi) Purchaser's letter no. 1125 dated 30.03.06

13. That in consideration of the payment of Rs. 8,35,90,174.00 (Rupees Eight Crore Thirty Five lacs Ninety thousand One hundred seventy four) only to be made by the purchaser to the contractor, the contractor hereby covenants with the purchaser to execute the project on TURN KEY BASIS and shall do and perform all works, remedy defects and things in the contract mentioned or described therein, within and at the time and in the manner and subject to the terms and conditions, stipulation mentioned hereinafter and more particularly described under ;

- Section-I : Special conditions of contract
- Section-II : Schedule of Prices
- Section-III : General terms and conditions.
- Section-IV : Guaranteed Technical specification/particulars for electrical/mechanical equipments
- Section-V : Correspondences

M.A.
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

are also annexed herewith and forming an integral part of this contract (hereinafter collectively referred to as contract document. And that in consideration of the due

[Signature]
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd., PATNA

[Signature]
M. K. L.
[Signature]

IN WITNESS WHERE OF the parties hereto have hereunder signed this agreement at PATNA on the day, month and year above mentioned.

NAME & SIGNATURE OF WITNESSES :

1. M/s S. K. Enterprises

CONTRACTOR

S. K. Enterprises
Proprietor

M/s M. K. Enterprises
PARTNER.

2.

PURCHASER

[Signature]
Manager (F. & A.)
Bihar State Hydroelectric
Power Corporation Ltd.

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

M/s M. K. Enterprises
PARTNER.

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

provisions and satisfactory execution of the project on TURN KEY BASIS as mentioned above, the purchaser will pay to the contractor the sum as mentioned in the schedule of prices contained in section-I (Special condition of contract) and also section-II (Break-up price) annexed or such other sum as may become payable to the contractor. Such payment is to be made at such time and in such manner as is provided.

In case, any of the terms given in section III of the General terms and Conditions laid down by the purchaser are at variance with section - I the provision as contained in section - I shall prevail. AND whereas the contractor has agreed to abide by all terms and conditions incorporated in a book under the title General Terms and Conditions of the Corporation and to provide at the proper time, the necessary erectors, supervisors and including other conditions for deployment of personnel duly qualified and in sufficient number for the erection, testing and commissioning of the plant. The qualification and experience of different categories of personnel will require prior approval of the Purchaser. Contractor's representative shall abide by all general regulations in force on the site and to any special conditions affecting the local administration, issued by the Purchaser or his duly authorized representatives. All the employees of the Contractor living on the land belonging to the Purchaser shall be deemed to be aware of all dangers and risks incidental to the activities of the Purchaser and its other contractors and the conditions of the Purchaser's land and work from time to time and the Purchaser will not be responsible for any injury arising therefrom. The contractor shall discharge all the obligations under the Indian workmen's compensation act and labour laws so far as it will affect the work under his control.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

9

M. K. Enterprises

PARTNER

SECTION - I

1. SCOPE OF WORK :

Pre construction detailed survey, design, supply and construction/ manufacture of all EM equipment, its accessories, consumables including power evacuation system/ transmission line and also operation/ maintenance of power house and power evacuation system for one year after successful commissioning even though these. Any other essential item, especially or individually required, is not mentioned in the DPR/schedule of prices are also to be provided.

2. PRICE :

Sl. No.	Item of Work	Amount (Rs. in lacs)
1.	Preliminary : Detailed alignment, survey of power channel, Tailrace channel including dog belling, fixation of pillars, establishing & fixing of bench mark, digging test pits along canal alignment and at structure site, bearing pressure test at power house/canal structure sites and bore hole at site for geological and geotechnical test and other soil and water tests, detailed design and engineering drawings including training of personnel etc.	8,70,000.00
2.	Civil works :	
	(i) Building	23,30,000.00
	(ii) Power plant appurtenant and other civil work	2,82,24,450.00
3.	Electrical & Mechanical equipments including erection and commissioning	4,91,00,000.00
4.	Power evacuation system	21,00,000.00
5.	Trial & commissioning	5,00,000.00
6.	Cost of operation and maintenance of power house and evacuation system for one year after successful commissioning	12,51,335.00
	Total	8,43,75,785.00
	Special rebate on Civil item (5.12) @ 2.5% on Rs. 3,14,24,450.00	(-) 7,85,611.00
	Grand Total	8,35,90,174.00

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1

BHPC/AGR/Sec-1/Belsar/TurnKey/05

Rupee Eight Crore thirty five lacs ninety thousand one hundred seventy four) only

Above total price is FIRM. The cost of E/M equipment, included therein, are F.O.R. site, which is inclusive of packing, forwarding, handling, freight, storage and insurance. The taxes, duties and levies will be extra. And, the cost of civil works, included therein, are inclusive of taxes, duties and royalty.

3. TAXES & DUTIES

The FIRM contract prices, F.O.R. destination, are exclusive of Sales Tax/ duties/ levies etc. on Electrical/Mechanical equipment which will be charged extra at rates prevailing at the time of dispatch. The Central Sales Tax at concessional rate will be charged on Electrical/Mechanical equipment against form 'C' to be furnished by the purchaser.

4. DEDUCTION OF SALES TAX & INCOME TAX :

Sales tax and income tax will be deducted as per statutory provision for deduction of the same on work contract.

Royalty and cess will be paid by the contractor.

5. TERMS OF PAYMENT

(A) ADVANCE :

- (i) Mobilization advance equivalent to 5% of the total value of the order (minus operation and maintenance charges for one year) against equal amount of irrevocable Bank Guarantee by a Nationalized Bank on execution of agreement for :

- (a) Mobilizing site facilities for starting the work.
- (b) Starting detailed alignment, survey of power channel, power house, tailrace channel including dog belling, fixation of pillars and bench mark, digging test pits for geological and geo-technical tests, bearings pressure test earth resistivity test and other Soil/Water test.

Placing orders of Electrical/Mechanical Equipments

- (d) To arrange for construction machinery.

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bane Bhawan, Patna-1

BHPC/AGR/Sec-I/Belsar/TurnKey/05

12

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd., PATNA

Handwritten signature
M. K. Ent
Bane Bhawan
PAR

TURN KEY EXECUTION OF BELSAR SHP GENERAL ABSTRACT OF COST

No.	ITEM OF WORKS	AMOUNT (Lakh Rs.)
		8.70
1	PRELIMINARY,	23.30
2	BUILDING	
3	POWER PLANT, APPURTENANT AND OTHER CIVIL WORK	12.80
	(a) EXCAVATION OF POWER CHANNEL	22.085
	(b) COST OF LINING OF POWER CHANNEL	15.16
	(c) CONSTRUCTION OF SLR BRIDGE ON POWER CHANNEL	15.16
	(d) CONSTRUCTION OF SLR BRIDGE ON TAILRACE CHANNEL	118.06
	(e) CONSTRUCTION OF POWER HOUSE	5.86
	(f) EXCAVATION OF TAILRACE CHANNEL	31.10
	(g) LINING OF TAILRACE CHANNEL	20.16950
	(h) CONSTRUCTION OF BLR BRIDGE ON POWER CHANNEL	0.85
4	MISCELLANEOUS	40.00
5	COMMUNICATION	507.00
6	COST OF ELECTRICAL & MECHANICAL EQUIPMENT	32.00
7	COST OF POWER EVACUATION SYSTEM	5.00
8	COST OF TRIAL & COMMISSIONING OF THE SYSTEM	12.00
9	COST OF OPERATION & MAINTENANCE OF POWER HOUSE AND EVACUATION SYSTEM FOR ONE YEAR	870.24450
	TOTAL COST	

Total Amount in Words.: Eight Crore Seventy Lacs Twenty four thousand four hundred fifty Rupees only

For M/s M. K. Enterprise
Plamda Be...
 Signature of *...*

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

For M/s M. K. Enterprise

PARTNER

**PRICE BID FOR TURN KEY EXECUTION
OF BELSAR SHP (2X500LW)
PRELIMINARY**

<u>No.</u>	<u>Particulars</u>	<u>Amount in Rs.</u>
	Detailed alignment, Survey of Power Channel	
	Tailrace Channel including dogbelling, fixation of pillars etc.	L.S. Rs. 100000.00
	Establishing and fixing bench marks	L.S. Rs. 50000.00
	Digging test pits along cannal alignment and at structure site	L.S. Rs. 70000.00
	Bearing pressure test at Power-House sites	L.S. Rs. 50000.00
	And canal structure site and bore hole at site	
	Charge of detailed design drawing and engineering (civil structures, Civil works of Power House Electrical/Mechanical Equipments all complete)	L.S. Rs. 600000.00
		<u>Total Rs. 870000.00</u>

Amount in words.: **Eight Lacs Seventy thousand Rupees only.**

For M/s M K Enterprises

Signature of Tenderer.
PARTNER.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna

For M/s M. K. Enterprises

PARTNER

**Annexure D –
Supporting documents for delay and time over-run
of the 4 Plants (Arwal, Sebari, Shirkhinda and Belsar)**

ANNEXURE – D

**Supporting documents for delay and time
over-run of the 4 Plants (Arwal, Sebari,
Shirkhinda, and Belsar)**

23

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

पत्रांक 1218
Civil/Misc/14-479/2006 - ZZ
सेवा में,

दिनांक 6.6.12 CEE/Belsar/01.

मेसर्स एम०के०इन्टरप्राइजेज,
सन सरैया, महावत टोली,
बेतिया - 845438
विषय:- बेलसार जल विद्युत परियोजना के अवधि विस्तार के संबंध में।
प्रसंग:- 1. एकरारनामा सं० -01/इले०/2006-07 दिनांक 03.04.06
2. आपका पत्रांक 13 दिनांक 19.05.12

महोदय,
उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में परियोजना प्रबन्धक डेहरी के अनुशंसा दिनांक 24.05.12 के आलोक में बेलसार जल विद्युत परियोजना एकरारनामा सं० -01 /इले० /2006-07 दिनांक 03.04.06 की कार्य समाप्त करने की अवधि दिनांक 30.03.12 तक विस्तारित की जाती है।

विश्वासभाजन,
ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

आपका पत्रांक पटना दिनांक
प्रतिलिपि श्री पी०एन०सिंह, परियोजना प्रबन्धक, सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को उनके अनुशंसा दिनांक 24.05.12 में क्रम में सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

आपका पत्रांक पटना दिनांक
प्रतिलिपि: प्रबन्धक (वित्त एवं लेखा) बी० एच० पी० सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। इस संबंध में संचिका सं० सिविल/विविध/14-479/06 पार्ट-II के नोटशीट पृ०/60 पर प्रबन्ध निदेशक महोदय से प्राप्त स्वीकृति एवं परियोजना प्रबन्धक डेहरी से प्राप्त अनुशंसा की छायाप्रति संलग्न है।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

आपका पत्रांक 1218 पटना दिनांक 6.6.12
प्रतिलिपि: प्रबन्ध निदेशक महोदय, बी० एच० पी० सी०, पटना को सूचनार्थ प्रेषित।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

1220

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.,
SONE BHAWAN:2ND FLOOR:BIRCHAND PATEL MARG, PATNA.

No. 4908,
Adm/EW/12-527/05-II.

Patna, dated 30/12/10 CEE/Sebari SHP-13.

To,

M/s. Associated Engineering Centre,
Frazer Road, Chandni Chowk,
Patna - 800001.

Sub:- Extension for completion period for construction of switchyard at Arwal SHP (1x500 KW).

Ref:- i. LOI no. 2000 dated 06.06.07.
ii. Work order no. 2595 dated 26.07.07.
iii. Agreement no. 31/Elect./07-08 dated 24.01.08.
iv. Your letter no. AEC/BHPC/SY/A/10 dated 20.11.10.

Sir,

Kindly refer to the above.

Your request for extension for completion period for the reasons mentioned in your letter at sl. no. IV has been considered.

The time of completion indicated under clause no. 4 of work order no. 2595 dated 26.07.07 is modified and is extended up to 30.11.10.

All other terms and conditions of the work order will remain the same.

Yours faithfully,

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____/

Dated, the _____/

Copy forwarded to Sri Yogendra Prasad, EE (E), Project-in-charge/A M (Acts.), Sone Eastern Link Canal HE Project, Barun, Aurangabad for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____/

Patna, the _____/

Copy forwarded to Sri P. N. Singh, Project Manager, Chandil Dam H. E Project, Chandil, Ghoraling, Saraikeela, Kharsawan (Jharkhand) for information and necessary action.

Email:pradeepnsingh@sify.com

Fax:0657-2464882

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

11/01

(2)

Memo No. _____/

Dated, the _____/

Copy forwarded to F.A./Manager (Acts.), BHPC, Patna for information and necessary action.

Sd/-

(Jawahar Lall)

Chief Engineer (Elect)

Memo No. 4908 /

Dated, the 30/12/10 /

Copy submitted to Managing Director, BHPC, Patna for kind perusal.

Shub
30/12/10
(Jawahar Lall)
Chief Engineer (Elect)

B

Net

OLC

BIHAR STATE HYDROELECTRIC POWER CORPORATION, LTD.
Sona Bhawan, 2nd floor, Birchand Patel Marg, Patna-800 001

Patna, Dated _____

No. _____

To
M/s H.P.P. Energy (India) Pvt. Ltd.
G-21, Sector - 63,
Noida - 201 301

Fax No. 9121-557122
E-mail: corporate@bshpc.com

Sub: Extension of completion period of Arwal SHP.

Ref: (i) This office agreement no. 05/Elect/06-07 dated 12.07.2006
(ii) Your letter no HPP/BHPC/115/12-13/04/SS5 dated 02.11.2012
(iii) Project incharge letter no. 221 dated 02.11.2012

Sr: With reference to the above completion period of Arwal SHP is here by extended upto 30-01-2012

Yours faithfully,

Sd/-
(Mani Sharan)
Chief Engineer (E)

Patna, Dated _____

Memo No. _____

Copy forwarded to Sni P.P. Shukla E.E. (Civil) S.N. Chaudhary E.E. (CV) Sni Surendra Kumar E.E. (E) for information and necessary action.

Sd/-
(Mani Sharan)
Chief Engineer (E)

Patna, Dated _____

Memo No. _____

Copy forwarded to Sni A.K.D. Verma S.E. (E) / Sni Sallendra Kumar S.E. (C) BHPC, Patna, for information and necessary action.

Sd/-
(Mani Sharan)
Chief Engineer (E)

Patna, Dated _____

Memo No. 150

Copy forwarded to Manager (P & A), BHPC, Patna, for information and necessary action.

Sd/-
(Mani Sharan)
Chief Engineer (E)

Chief Engineer (Elect.)

Hydroelectric

Corporation Ltd.

Patna-800 001

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
Sone Bhawan, (2nd Floor), Birchand Patel Marg, Patna - 800 001

Office Order: 393

Patna, the 18/09/10 Kind Office order-1001

The facts contained in letter No. HPP/BHPC/2010-11/143 dated the 17th September, 2010 of M/s HPP Energy (India) Pvt. Ltd., Noida were reviewed in the light that the performance testing of Shirkhinda is to be done by MNRE, Govt. of India and erection activities at other projects i.e. Tejapura, Arwal etc., have also been started by M/s HPP Energy (India) Pvt. Ltd.

Considering all pros and cons, the order contained in this office letter No. 1840 dated the 20th May, 2008 is modified to the extent that instead of Rs.20.00 lacs, a sum of Rs. 25.00 lacs (Rupees twenty-five lacs) only is sanctioned for payment to M/s HPP Energy (India) Pvt. Ltd., against their claim for Rs.76.25 lacs (Rupees Seventy-six lacs twenty-five thousand) only is sanctioned to be paid.

The payment will be made after adjusting amounts paid earlier to this account. All the above referred letters shall form parts of this order.

Encl: As a bove.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Memo No. _____/

Copy forwarded to M/s HPP Energy (India) Pvt. Ltd., G-21, Sector-63, Noida- 201 301 for information and necessary action.
Email: contact@hppemergu.com
Fax" 0124-4699199

Patna, the _____/

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Memo No. _____/

Copy alongwith enclosures forwarded to Financial Advisor/Sri R.K. Agrawal, Manager (Accounts), Bihar State Hydroelectric Power Corporation, Patna for information and necessary action.

Encl: As a bove.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Memo No. _____/

Copy along with enclosures forwarded to Shri Yogendra Prasad, Executive Engineer (M)/Assistant Manager (Accounts), Sone Eastern Link Canal H.E. Project, Barun, Aurangabad for information and necessary action.

Encl: As a bove.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Am
Chief Engineer (Elect.)
Bihar State Hydroelectric
Patna, (2nd Floor)

(2)

Memo No. _____/

Patna, the _____/

Copy alongwith enclosures forwarded to Sri P.N. Singh, Project Manager, Chandil Dam H.E. Project, Chandil, P.O. Goring, Dist. Saraikela-Kharswan (Jharkhand) for information and necessary action.

Email:pradeepnsingh@sify.com

Fax: 0657-2464882

Encl: As a bove.

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna the 18/9/10

Memo No. 4015

Copy submitted to the Managing Director, Bihar State Hydroelectric Power Corporation, Patna for kind information.

(Jawahar Lall)

Chief Engineer (Elect.)

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Saraikela-Kharswan

520

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No. 1735
 Date 12-4-2008

Patna, dated 13-7-08 CEE-Subm SHP-3

To
 M/s H.P.P. Energy (India) Pvt. Ltd.
 G-21, A-B Sector-83
 Noida-201301

Sub: **Sebari SHP- (2x500 KW) - Approval of time extension.** (Fax No. 0120-4699199)

- Ref:
- i This Office agreement No. 03/Elect/05-06 dated 06.06.05
 - ii Your letter no. HPP/BHPC/115/06-07 dated 09.01.07
 - iii This office letter no. 506 dated 05.2.07
 - iv Your letter no. HPP/BHPC/115/07-08 dated 06.08.07
 - v Your letter no. HPP/BHPC/115/07-08 dated 04.02.08
 - vi This office letter no. 1297 dated 01.4.08
 - vii Your letter no. HPP/BHPC/115/07-08 dated 27.02.08
 - viii This office letter no. 1647 dated 05.5.08
 - ix Your letter no. HPP/BHPC/115/08-09 dated 12.5.08
 - x This office letter no. 1968 dated 29.5.08
 - xi Your letter no. HPP/BHPC/115/08-09 dated 29.5.08
 - xii This office memo no. 2248 dated 18.6.08
 - xiii Your letter no. HPP/BHPC/115/08-09 dated 09.7.08

Sir,
 Kindly refer to the above.

The 'Completion period' under clause no. 7, Section-I of contract agreement under reference is extended up to October, 2008.

The other terms and conditions of the contract agreement under reference will remain the same.

Kindly acknowledge the receipt of this letter.

Yours faithfully,

Sd/-
 (Jawahar Lall)
 Chief Engineer (Elect.)

Memo No. Patna dated
 Copy forwarded to Sri Arun Kumar, Head, AHEC, HT, Roorkee - 247667 (Uttaranchal),
 for information and necessary action.

Sd/-
 (Jawahar Lall)
 Chief Engineer (Elect.)

Memo No. Patna dated
 Copy forwarded to M/s. Shahabaz Engineers Pvt. Ltd. Road no. 17, Jawahar Nagar,
 Aligarh, Jharkhand for information and necessary action.

Sd/-
 (Jawahar Lall)
 Chief Engineer (Elect.)

My
 Chief Engineer (Elect.)
 Bihar State Hydroelectric Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.
Sone Bhawan, (2nd Floor), Birchand Patel Marg, Patna - 800 001

Office Order: 1834
Admin/12-13004-01-2

Patna, the 18/9/10

The facts contained in letter No. HPP/BHPC/2010-11/143 dated the 17th September, 2010 of M/s HPP Energy (India) Pvt. Ltd., Noida were reviewed in the light that the performance testing of Seban is to be done by MNRE, Govt. of India and also erection activities at other projects i.e. Tejapura, Arwal etc. have been started by M/s HPP Energy (India) Pvt. Ltd.

Considering all pros and cons, the order contained in this office letter No. 1834 dated the 20th May, 2010 is modified to the extent that instead of Rs. 20.00 lacs, a sum of Rs. 25.00 lacs (Rupees twenty-five lacs) only is sanctioned for payment to M/s HPP Energy (India) Pvt. Ltd., against the claim for Rs. 79.97 (Rupees Seventy-nine lacs ninety-seven thousand) only.

The payment will be made after adjusting amounts paid earlier to this account. All the above referred letters shall form parts of this order.
Encl: As a above.

Memo No. /

Copy forwarded to M/s HPP Energy (India) Pvt. Ltd., Noida- 201 301 for information and necessary action.
Email: contact@hppemergu.com
Fax" 0124-4698199

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)
Patna, the /

Memo No. /

Copy along with enclosures forwarded to Financial Advisor/Sri R.K. Agrawal, Manager (Accounts), Bihar State Hydroelectric Power Corporation, Patna for information and necessary action.
Encl: As a above.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)
Patna, the /

Memo No. 4016 /

Copy along with enclosures forwarded to Shri Yogendra Prasad, Executive Engineer (M)/Assistant Manager (Accounts), Sone Eastern Link Canal H.E. Project, Barun, Aurangabad for information and necessary action.
Encl: As a above.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)
Patna, the 18/9/10 /

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric Power Corporation Ltd.
Patna

639

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

संख्या 4658
असै०/मिस्स०/14-479/06. -६.

दिनांक 29/12/09 CEE/Letter(H)/12

सेवा में,

मे० एम०के० इन्टरप्राइजेज,
महावत टोली,
बेतिया - 845438 (प० चंपारण)।

विषय: बेलसार जल विद्युत परियोजना के निर्माण हेतु समय वृद्धि के संबंध में।

- प्रसंग: 1. एकरारनामा सं०- 01/इले०/06-07 दिनांक 03.04.06
2. आपका पत्रांक 312 दिनांक 10.9.09
3. निगम का पत्रांक 4146 दिनांक 26.11.09
4. आपका पत्रांक 462 दिनांक 05.12.09


महाशय,

उपर्युक्त विषयक प्रासंगिक पत्रों में से एक पत्र दिनांक 05.12.09 का कृपया अवलोकन करना चाहेंगे, जिसके द्वारा निम्नलिखित दो बिन्दुओं की ओर निगम का ध्यान आकृष्ट कराया गया है :-

- कार्य में विलम्ब होने के संबंध में
इस संबंध में निम्नलिखित विवरणी कृपया शीघ्र उपस्थापित किया जाय:-
(क) एल०ओ०आई० निर्गत करने की तिथि
(ख) एकरारनामा करने की तिथि
(ग) ले आऊट प्लान की स्वीकृति की तिथि
(घ) ले आऊट प्लान में परिवर्तन की तिथि
(ङ) कार्य पूरा होने की अवधि
(च) निगम द्वारा निर्माण कार्य हेतु मटेरियल के विरुद्ध किए गए भुगतान की तिथिवार विवरणी।

- परियोजना को पूरा करने की कार्य योजना आपने निम्नवत् सूचित किया है :-

क्र०सं०	विवरणी	कार्य पूरा होने की अवधि
1.	क्रेन बीम एवं रूफ ट्रस का कार्य	जनवरी 30, 2010
2.	पावर चैनल एवं ब्रिज का कार्य	मार्च 30, 2010
3.	पावर चैनल एवं टेलरेस चैनल	अप्रैल 15, 2010
4.	फिनिशिंग कार्य	अप्रैल 30, 2010


Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation Ltd.
Sonbhadra, Patna.

(2)

उल्लेखनीय है कि इस परियोजना पर अन्य परियोजनाओं की तरह RIDF - VIII के तहत ऋण स्वीकृत किया गया है, जिसकी अवधि दिसम्बर, 2008 में ही समाप्त हो चुकी है। प्रबन्धन द्वारा उच्चस्तरीय बैठक में यह सूचित किया गया है कि यह परियोजना मार्च, 2010 तक पूरी कर ली जायेगी।

अतः पुनरीक्षित कार्य योजना संसूचित करें ताकि मार्च, 2010 के पूर्व परियोजना को कमीशन किया जा सके।

विश्वासभाजन,

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

दिनांक...../

ज्ञापांक...../

प्रतिलिपि-सह- अनुलग्नक श्री पी0एन0 सिंह, परियोजना प्रबंधक, चांडिल डैम जल विद्युत परियोजना, चांडिल, घोडालिंग, सरायकेला, खरसावाँ, झारखंड को कृपया सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

अनु0: यथोक्त।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक 4658...../

दिनांक 25/12/09/

प्रतिलिपि श्री एस0 एन0 चौधरी, कार्यपालक अभियंता (असै0) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

Hy
Engineer (Elect.)
Sone Bhawan, Patna-1
Power Corporation Ltd.
Hydroelectric

जवाहर लाल
(जवाहर लाल)
मुख्य अभियंता (वि0)

BIHAR STATE HYDROELECTRIC POWER CORPORATION, LTD.

Sone Bhawan, 2nd floor, Birchand Patel Marg, Patna-800 001

No. 152 /
Adm/EW/12-443/04-05 III

Patna, Dated 24.1.13 S/HPP/66

To,

Regd. Post

M/s H.P.P. Energy (India) Pvt. Ltd.,
G - 21, Sector - 63,
Noida - 201 301.

Fax no.: 0120 - 4699199
Email: contact@hppenrgy.com

Sub.: **Extension of completion period of Shrikhinda SHP.**

- Ref.: (i) This office agreement 01/Elect/05-06 dated 06.06.2005
(ii) Your letter no HPP/BHPC/114/12- 13/04/884 dated 01.11.2012.
(iii) Project Incharge letter no. 222 dated 02.11.2012.

Sir,

With reference to the above completion period of Shrikhinda SHP is here by extended upto 30-06-2011.

Yours faithfully,

Sd/-

(Mani Sharan)
Chief Engineer (E)

Memo No. _____ /

Patna, Dated _____ /

Copy forwarded to Sri P. P. Sukla, E.E. (Civil), S. N. Chaudhary E.E. (C), Sri Surendra Kumar E.E. (E), for information and necessary action.

Sd/-

(Mani Sharan)
Chief Engineer (E)

Memo No. _____ /

Patna, Dated _____ /

Copy forwarded to Sri Manager (F & A) BHPC Patna, for information and necessary action.

Sd/-

(Mani Sharan)
Chief Engineer (E)

Memo No. _____ /

Patna, Dated _____ /

Copy forwarded to Sri A. K. D. Verma, S.E. (E) / Sri Sailendra Kumar, S.E. (C), BHPC Patna, for information and necessary action.

Sd/-

(Mani Sharan)
Chief Engineer (E)

Memo No. 152 /

Patna, Dated 24.1.13 /

Copy submitted to Managing Director, BHPC, Patna for kind information.

(Mani Sharan)

Chief Engineer (E)

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

कार्यालय आदेश संख्या 54 /
Civil/Monitoring/14-317/04

Civil/Office Order/040412
दिनांक 12.4.12

एकरारनामा सं० 01/सिविल/2005-06 दिनांक 27.06.05 के तहत में० शाहाबाद इंजिनियर्स प्रा०लि०, पाली रोड, डेहरी ऑन सोन रोहतास द्वारा श्रीखिण्डा लघु जल विद्युत परियोजना का असैनिक कार्य किया गया है। उक्त परियोजना से विद्युत का उत्पादन एक वर्ष से ज्यादा समय से हो रहा है।

परियोजना प्रबन्धक डेहरी के पत्रांक 211 दिनांक 26.11.11 के आलोक में कार्य समाप्ति की अवधि दिसम्बर 2010 तक विस्तारित की जाती है, एवं जमानत के रूप में काटी गई कुल राशि रु० 3,56,605/- (रु० तीन लाख छप्पन हजार छः सौ पॉच) मात्र को उनके अनुशंसा दिनांक 21/02/12 (छायाप्रति संलग्न) के आलोक में वापस लौटाने की स्वीकृति दी जाती है।

अनु०:- यथोक्त।

ह०/-

(जवाहर लाल)
मुख्य अभियन्ता (वि०)

ज्ञापांक / दिनांक
प्रतिलिपि में० शाहाबाद इंजिनियर्स प्रा०लि०, पाली रोड, डेहरी ऑन सोन रोहतास को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-

(जवाहर लाल)
मुख्य अभियन्ता (वि०)

ज्ञापांक - / दिनांक
प्रतिलिपि सह अनुलग्नक प्रबन्धक (वि० एवं ले०)/प्रबन्धक, (लेखा) निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। अनुरोध है कि फर्म के उपर अगर कोई अग्रिम हो तो उसका सामंजस्य करने के पश्चात ही भुगतान करें। इस संबंध में सधिका सं० Civil/Monitoring/14-317/04 के टिप्पण पृ० 67 पर प्रबन्ध निदेशक की स्वीकृति प्राप्त है।

अनु०:- यथोक्त।

ह०/-

(जवाहर लाल)
मुख्य अभियन्ता (वि०)

ज्ञापांक / दिनांक
Engineer (Elect.) प्रतिलिपि सह अनुलग्नक परियोजना प्रबन्धक/कार्यपालक अभियन्ता (असै०) सोन नहर परियोजना, डेहरी को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

अनु०:- यथोक्त।

ह०/-

(जवाहर लाल)
मुख्य अभियन्ता (वि०)

ज्ञापांक - 772 / दिनांक 12.4.12
प्रतिलिपि प्रबन्ध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।

(जवाहर लाल)
मुख्य अभियन्ता (वि०)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कॉर्पोरेशन Bihar State Hydroelectric Power Corporation

(A GOVERNMENT OF BIHAR ENTERPRISE)
ISO 9001 : 2000 Certified Organisation

संख्या 738 /
असो/मि/14-439/06

दिनांक 20.02.07 /
Letter(Hindi)/100

सेवा में,

मे० एम०के० इन्टरप्राइजेज,
नूर अपार्टमेंट, द्वितीय तल,
3 जे० ब्लॉक, न्यू पाटलीपुत्रा कॉलनी,
पटना - 800 013.

विषय :- बेलसार लघु जल विद्युत परियोजना के निर्माण हेतु किए गए एकरारनामा में आर०सी०सी० एम-25 के दर की स्वीकृति के सम्बन्ध में

प्रसंग :- (1) एकरारनामा सं० 01/इले०/08-07 दिनांक 03.04.06
(2) आपका पत्रांक 198 दिनांक 04.01.07.

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र का कृपया स्वरण करें जिसके द्वारा एकरारनामा में आर०सी०सी० (एम-25) मद में दर की स्वीकृति हेतु अनुरोध प्राप्त हुआ है ।

बेलसार जल विद्युत परियोजना के शक्तिगृह के निर्माण के लिए ए०एच०ई०सी०, रुड़की द्वारा ड्राइंग सं० 3331008 निर्गत किया गया, जिसमें आर०सी०सी० (एम-25) का प्रावधान है । इस प्रावधान के अनुसार स्थल पर कार्य किए जा रहे हैं । परन्तु एकरारनामा में एम-20 का प्रावधान है ।

आर०सी०सी० (एम-25) के दर निर्धारण हेतु आपके द्वारा एकरारनामा के मद सं० (आर०सी०सी०-एम-20) को आधार मानने का अनुरोध किया गया है । इसके अनुसार आर०सी०सी० (एम-25) के दर निर्धारण की गणना निम्न प्रकार है :-

Sl. No.		Cement (M ³)	Sand (M ³)	Aggregate (M ³)
1.	R.C.C (M-25) (1:1:2)	0.395 (11.63 bags)	0.395	0.790
2.	R.C.C. (M-20) (1:1.5:3)	0.286 (8.41 bags)	0.426	0.857
3.	Difference (Outy.)	0.109 (3.22 bags)	0.031	0.067
4.	Rate of R.C.C. (M-20) as per agreement.	Rs. 5,100/M ³		
5.	Cost of extra cement and 10% C.P. (As per schedule of rate Patna Division 2005.	Rs. 521.00		

पञ्जीकृत कार्यालय : सोन भवन, पौराणिक मंदिर मार्ग, पटना-800 001

Regional Office : Son Bhawan, Panchanand Temple Marg, Patna-800 001

ई. पी. ऑ. नो. एका दूरभाष नं. / E.P.O. No. Phone No. : 0612-2224002/2228267

ई.एस. नं. / E.S. No. : 0612-2227691 Email : bshpc@bshpc.com, Web site : www.bshpc Ltd.com



ISO 9001 : 2000

6.	Less for sand including 10% C.P. as per schedule of rate Patna division	Rs. 2.00
7.	Less for aggregate (Stone chips) including 10% C.P. as per schedule of rate Patna Division - 2005	Rs. 28.00
8.	Rate of R.C.C. (M-20)	Rs. 5591/M ³

इस प्रकार आर०सी०सी० (एम-25) कार्य मद में रु०5,591.00 (रुपये पाँच हजार पाँच सौ एकानवे) मात्र के दर की स्वीकृति दी जाती है ।

आर०सी०सी० एम-25 कार्य मद को एकरारनामा का अंग माना जाय एवं एकरारनामा को इस हद तक संशोधित समझा जाय ।

My
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Secy. Bhaban, Patna-1

विश्वासभाजन,
जवाहर लाल
 (जवाहर लाल)
 मुख्य अभियन्ता (वि०)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना

Civil-Sebari/270513

पत्रांक: 1260 /

पटना, दिनांक: 26.6.13 /

Civil/Monitoring/14-350/04-III

सेवा में,

मेसर्स शाहाबाद इंजिनियर्स प्रा०लि०,
पाली रोड,
डिहरी-ऑन-सोन
रोहतास - 821307

विषय: सेवारी जल विद्युत परियोजना के अन्य कार्य मदों के दर स्वीकृत के संशोधन के संबंध में ।

- प्रसंग: 1. एकरारनामा सं० 06/सिविल/08-09 दिनांक 09.03.09
2. निगम का पत्रांक 2362 दिनांक 14.07.09
3. निगम का पत्रांक 936 दिनांक 07.05.13

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संबंध में सूचित करना है कि सेवारी जल विद्युत परियोजना से संबंधित कुछ अन्य कार्य मदों में दर स्वीकृति के क्रम में निगम के पत्रांक 936 दिनांक 07.05.13 में निम्नवत अंकित हो गया ।

Total + Service Tax = Rs. 8,04,121/-

उपरोक्त दर को निम्न प्रकार से संशोधित किया जा रहा है :-

Total = Rs. 8,04,121/- Plus Service Tax (Extra)

निगम के पत्रांक 936 दिनांक 07.05.13 को इस हद तक संशोधित समझा जाय ।

Chief Engineer (Elect.)
Or State Hydroelectric
Corporation Ltd.
Patna-1

विश्वसभाजन,

ह०/-

(मणिशरण)

मुख्य अभियंता

पटना, दिनांक 26.6.13 /

ज्ञापांक 1260 /

प्रतिलिपि श्री पी०पी०शुक्ला, कार्यपालक अभियंता (असै०), सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(मणिशरण)

मुख्य अभियंता

पटना, दिनांक 26.6.13 /

ज्ञापांक 1260 /

प्रतिलिपि:- प्रबन्धक (वित्त एवं लेखा), बी०एम०पी०सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(मणिशरण)

मुख्य अभियंता

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि - श्री ए०के०डी० वर्मा, अधीक्षण अभियंता (वि०) बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(मणिशरण)

मुख्य अभियंता

ज्ञापांक 1260 /पटना, दिनांक 26.6.13 /

प्रतिलिपि - प्रबन्ध निदेशक महोदय बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन, पटना को कृपया सूचनार्थ ।

मणिशरण
(मणिशरण)
मुख्य अभियंता

Wg
Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation Ltd.

A

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०, सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

का० आ० सं०: 48 /
Civil/Misc/14-417/2006

पटना, दिनांक: 31.01.08/ Office Order 1/158

निर्माणाधीन नाबार्ड सम्पोषित परियोजनाओं में कुछ ऐसे हैं जिनके असैनिक एवं विद्युत/यांत्रिक कार्यों के लिए अलग-अलग एकरारनामों किये गये हैं यद्यपि दोनों प्रकार के डिजाइन आइ.आइ.टी. रूडकी द्वारा अनुमोदित किये गये हैं ।

इस संबंध में प्रबंधन का ध्यान इस ओर आकृष्ट कराया गया है कि सात परियोजनाओं यथा पहरमा, रामपुर, सेवारी, नटवार, अरवल, बलिदाद, तेजपुरा को छोड़कर शेष तीन परियोजनाओं में यथा श्रीखिण्डा, सेवारी एवं बेलसार में एम20 कंक्रीट कार्य के दर का उल्लेख तो एकरारनामा में तो है, परन्तु एम25 कंक्रीट कार्य के दर का उल्लेख नहीं है जबकि आइ.आइ.टी. रूडकी द्वारा डिजाइन में एम25 कंक्रीट कार्य का उल्लेख है । ऐसी स्थिति में एम25 कंक्रीट कार्य के विरुद्ध सम्बेदक को तदर्थ रूप से जो भी अब तक भुगतान किया जाता रहा है इसमें समरूपता नहीं है ।

ऐसी स्थिति में एम25 कंक्रीट कार्य एकरारनामा से बाहर का आइटम हो जाता है, जिसका सभी परियोजनाओं (कुछ को छोड़कर) के लिए समरूप दर का निर्धारण करना आवश्यक प्रतीत होता है ।

इस संबंध में उल्लेखनीय है कि बिहार सरकार द्वारा स्वीकृत अनुसूचित दर में भी एम20 कंक्रीट कार्य का दर का उल्लेख तो है, परन्तु एम25 कंक्रीट कार्य का दर का उल्लेख नहीं है ।

इस परिप्रेक्ष्य में एम25 कंक्रीट कार्य का दर निर्धारण रू० 5000/- (रूपये पाँच हजार) प्रति घनमीटर किया जाता है । यह 31.03.2008 तक ही मान्य होगा । इस तिथि के बाद एम25 कंक्रीट कार्य होंगे उसका भुगतान रू० 4,500/- प्रति घनमीटर की दर से किया जायेगा ।

उल्लेखनीय है कि सेवारी, श्रीखिण्डा एवं बेलसार जल विद्युत परियोजनाओं में एम25 कंक्रीट का दर अतिरिक्त मद है परन्तु शेष सभी नाबार्ड सम्पोषित परियोजनाओं में एम25 कंक्रीट का दर एकरारनामा में निहित है एवं सम्बेदकों द्वारा जो दर दिया गया है वह निम्न प्रकार है:-

11/1

क्र.सं	परियोजना का नाम	एम25 कंक्रीट का दर जो एकरारनामा में है
1.	पहरमा जल विद्युत परियोजना	रु0 5,350 प्रति घनमीटर
2.	रामपुर जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
3.	अमेठी जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
4.	नटवार जल विद्युत परियोजना	रु0 5,000 (9% छूट)
5.	अरवल जल विद्युत परियोजना	रु0 4,200
6.	बलिदाद जल विद्युत परियोजना	रु0 4,200
7.	तेजपुरा जल विद्युत परियोजना	रु0 5,000 12.5%

कुल- रु0 31,750

7

रु0 4,536 /-

या रु0 4,500 /-

उपरोक्त एम25 कंक्रीट के लिए प्राप्त दरों का औसत रु0 4,500/- प्रति घनमीटर ही आता है । अतः 31.03.2008 के उपरान्त यह दर शेष परियोजनाओं यथा सेवारी, श्रीखिण्डा एवं बेलसार के लिए मान्य होगा ।

कार्य की प्रगति को और त्वरित करने हेतु (Incentive) के तौर पर वर्तमान तिथि से 31.03.2008 तक एम25 कंक्रीट कार्य जो उपरोक्त तीन परियोजनाओं के लिए अतिरिक्त मद है प्रति घनमीटर कम-से-कम रु0 5,000/- या जितना स्वीकृत है भुगतान होगा एवं 31.03.2008 के उपरान्त सभी का दर समान करते हुए रु0 4,500/- प्रति घनमीटर हो जाएगा ।

पूर्व में सेवारी, श्रीखिण्डा, बेलसार के लिए एम25 कंक्रीट हेतु औपबंधिक दर अगर रु0 4,500/- प्रति घनमीटर से कम है तो उसे रु0 4,500/- प्रति घनमीटर की दर से स्वीकृति दी जाती है और अगर ज्यादा है तो वह 31.03.2008 तक ही लागू रहेगा ।

इस संबंध में पूर्व के आदेश को इस हद तक संशोधित किया जाता है ।

प्रबंध निदेशक के आदेश से,

My

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/ पटना, दिनांक _____/
 प्रतिलिपि- श्री एस0एन0चौधरी, कार्यपालक अभियंता (असै0)/श्री पी0पी0शुक्ला,
 सहायक अभियंता (असै0)/सहायक प्रबन्धक (लेखा), सोन पश्चिमी संयोजक नहर जल
 विद्युत परियोजना, डिहरी/सोन पूर्वी नहर जल विद्युत परियोजना, बारुण को सूचनार्थ एवं
 आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/ पटना, दिनांक _____/
 प्रतिलिपि- श्री पी0 एन0 सिंह, परियोजना प्रभारी-सह-नोडल पदाधिकारी, चांडिल
 जल विद्युत परियोजना, चांडिल, पोस्ट- घोड़ालिंग, जिला- सरायकेला- खरसावां को
 सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

E-mail: pradeepnsingh@sify.com

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/ पटना, दिनांक _____/
 प्रतिलिपि- श्री सूर्य मोहन, अधीक्षण अभियंता (वि0)/श्री शैलेन्द्र, अधीक्षण
 अभियंता (असै0)/श्री ए0के0डी0 वर्मा, अधीक्षण अभियंता (वि0), निगम मुख्यालय, पटना
 को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/ पटना, दिनांक _____/
 प्रतिलिपि- वित्तीय परामर्शी/प्रबंधक (लेखा) निगम मुख्यालय, पटना को सूचनार्थ
 एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक 1156/ पटना, दिनांक 31/01/08/
 प्रतिलिपि- प्रबंध निदेशक, बी.एच.पी.सी., पटना को कृपया सूचनार्थ प्रेषित ।

(जवाहर लाल)

मुख्य अभियंता (वि0)

Chief Engineer (Elect.)
 Bihar State Electric
 Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION L
Sone Eastern Canal H.E.P., Barun (Aurangabad)

No. _____
Aum/EW/12/196/01 vol-III

Dated: _____ / CEE(Eng) 19

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To,
M/s. Shahabad Engineers Pvt.Ltd.,
Jawahar Nagar, Mango,
Jamshedpur.

Sub: Completion of the civil works of SHRIKHINDA SHP (2x350 KW) as
per agreement No. 01-Civil/2005-06, dated 27.6.2005.

Ref:
(i) This office letter no.3551 dated 31.12.05
(ii) This office letter no. 484 dated 11.2.06
(iii) This office letter no. 1777 dated 22.5.06

Dear Sirs

Agreement for above said work was executed on 27.6.2005. According to the terms of the agreement the contracted civil work has to be completed within 8(eight) months from the date of payment of the first mobilization advance payment whereof was made to you on December,28, 2005. The contractual completion period is, therefore, going to expire very soon i.e. on 28.8.2006.

2. You will please appreciate and notice that the progress of work is not satisfactory inspite of all support and assistance given by BHPC under the terms of the agreement, and, with the present speed, it can not be completed in time.
3. The work of manufacture, supply and erection of the E/M Equipment of this project has already been awarded to M/s. HPP Energy (India) Pvt.Ltd. through a separate contract dated 06.06.2005. They have manufactured several components and items of the machines which can not be erected primarily due to the reason that the civil works including foundations have not been completed by you.
4. You are very much aware that this is a NABARD - Financed Project and has to be completed and fully commissioned within a fixed time-frame.
5. Non-completion of the contracted work by you has as such, created a situation where BHPC is likely to suffer substantial financial and other losses.

12/11/06 US.00147 with a definite plan and programme to perform and complete the subject contract within the shortest possible time. Please note that in case of your failure to do so, BHPC may have to take suitable action for breach of the contractual provision and on your part.

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7. Till that it may not be possible to make any payment to you against your bills if any, towards this project.
8. This may please be treated as MOST URGENT.

Yours faithfully,

Sd/-
(Jawahar Lal)
Chief Engineer (E)

Memo No. _____

Dated, the _____/_____/_____

Copy forwarded to Sri S.N. Choudhary, Assistant Engineer (C), SWLC HEP, Dehri / Mr H.N. Mishra, Assistant Manager (A/c) SELC, HEP, Dehri for information and necessary action.

Sd/-
(Jawahar Lal)
Chief Engineer (E)

Memo No. _____

Dated, the _____/_____/_____

Copy forwarded to Sri P.N. Singh, P.M. Chandil Dam H.E. Project, Chandil, P.O. Saraikela, Kharsawan, Jharkhand for information and necessary action.

FAX NO. 0657-2351172

Sd/-
(Jawahar Lal)
Chief Engineer (E)

Memo No. _____

Dated, the _____/_____/_____

Copy forwarded to F.A./Manager (A/c) BHPC, Patna for information and necessary action.

Sd/-
(Jawahar Lal)
Chief Engineer (E)

Memo No. 2849

Dated, the 18/8/06

Copy submitted to Managing Director, BHPC, Patna for favour of information.

Sd/-
(Jawahar Lal)
Chief Engineer (E)

My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation Ltd

(109)

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना**

पत्रांक: 936 /

Civil/Monitoring/14-350/04-III

सेवा में,

Civil-Sebari/010413

पटना, दिनांक: 7.5.13 /

मेसर्स शाहाबाद इंजिनियर्स प्रा०लि०,

पाली रोड,

डिहरी-ऑन-सोन

रोहतास - 821307

विषय: सेवारी जल विद्युत परियोजना के असैनिक कार्य के संशोधित कार्यादेश के संबंध में ।

प्रसंग: 1. एकरारनामा सं० 06/सिविल/08-09 दिनांक 09.03.09

2. निगम का पत्रांक 2362 दिनांक 14.07.09

महाशय,

सेवारी जल विद्युत परियोजना के असैनिक कार्यों के लिए ए०एच०ई०सी० रुड़की के नक्शों के आधार पर मदवार मात्रा की गणना की गई है ।

इस पृष्ठभूमि में एकरारनामा सं० 06/सिविल/08-09 दिनांक 25.03.09 एवं निगम के पत्रांक 2362 दिनांक 17.07.09 के मद, मदवार मात्रा, दर एवं राशि निम्नवत् संशोधित किया जाता है :-

A Power House:- Bill of Quantity for construction of Power House of Sebari S. H. P

A-1 Items comes under agreement

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work Excavation work in excavation of foundation of Power House and appurtenant structure in all kinds of soil, wet and dry including all leads and lift by mechanical means as per drawing, specification and direction of E/I	98	M ³	789.77	80.00	63181.60
3	Reinforcement for RCC work including straightening cutting, bending in position and binding all complete					
g.	TMT Bar 25.00 mm dia	24.5	MT	24.565	46550.00	1143500.75
6	Supply, fabrication, erection fitting & fitting of trash rack gate complete with all required seals and embedment complete job.	11	MT	11.196	101555.99	1137020.86

Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation Ltd

A-2 Items comes under Letter no. 2362 dated 14/07/09

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work in excavation of foundation trench in ordinary soil (Vide classification of soil item A) and disposal of excavated earth so obtained (50 m. away from the edge of trench with initial lead of 150 m. and initial lift of 1.5 m. all complete job as per specification.	140	M ³	336.288	43.51	14631.89
5	Earth work in filling in foundation or back filling of Masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed, fully computed and finally dressed with earth obtained after cutting of Borrow pits beyond 150 m lead up to 1/2 km with all lift and carriage by truck complete job as per specification of E/I	350	M ³	988.681	189.05	186910.14
7	Providing & laying of PCC or RCC M150 with nominal mix of (1:2:4)..... as per direction of E/I.	142	M ³	178.483	3082.27	550132.79
8	Providing & laying of RCC M250 with nominal mix of (1:1:2)	210	M ³	249.19	4787.71	1193049.45
9	Providing shuttering including strutting, propping etc and its removal after use in foundation/structure as per specification.	210	M ²	1477.352	184.48	272541.89
12	Masonry Work Brick work in designation 100A Brick work with cement mortar (1:4) in foundation all complete job.	75	M ³	220.897	2271.87	501849.26
14	Plaster Work Providing 25 mm thick cement plaster with approved quality of sand of requisite F.M. washed and screened including curing, scaffolding where ever required and its removal, royalty and all taxes etc. complete job.	2590	M ²	4265.386	114.09	486637.88
15	Providing 1.5mm thick cement punning including curing royalty and all taxes etc complete job as per specification and direction of E/I	10	M ²	368.695	22.42	8266.14

Chief Engineer (Elect.)
Hydroelectric

16	Extra for providing and fixing steel beading of approved shape and section with screw instead of glazing clip and metal slash putty in steel door, windows, ventilators and composite units.					
	Steel Window	20	M ²	30.12	172.04	5181.84
17	Providing & fixing oxidized M.S. Sliding door bolt with Nuts and Screw etc complete 250 x 16 mm	5	Nos	14	60.18	842.52
21	Providing & fixing 1mm thick M.S. Sheet Metal door with frame of 40 x 40x6 m M.S. angle iron and 3mm gusset plates at the junction and corner all necessary fitting all complete including applying a coat of approved steel.	6	M ²	17.31	1568.54	27151.42
22	Providing and fixing M.S. Grill of required pattern in frames of windows etc with M.S. Flat square or round bars etc complete.					
	Fixed to steel window	150	kg	181.22	58.19	10545.19
	Fixed opening/frame with	750	kg	1332	58.19	77509.08
23	Providing and fixing M.S. Fan clamp toe 1 of 16 mm	2	Nos	7	84.78	593.46
25	Providing ridge or hips of width 60cm overall width G.S. sheet fixed with G.I.J or L hook, bolts and nuts 8mm dia G.I limpet and bitumen washer complete 0.80 mm thick	28	Mtr	34	259.39	8819.26
26	Providing and fixing 15cm wide 45cm overall semicircle plain G.S. sheet gutter with iron bracket 40 x 3mm size bolt nut and washer etc including making necessary connection with rain water 0.80mm thick	80	Mtr	94.49	230.89	21816.79
27	Providing Flat iron bracket 50x3 mm size with necessary bolt & nut washer etc for fixing G.S. sheet gutter with purling	38	Mtr	94.49	32.53	3073.75
28	Extra for providing & fixing wind ties of 40 x 6 mm flat iron section.	280	Mtr	584.5	64.74	37840.53
30	Providing & fixing on wall face unplasticized PVC rainwater pipe conforming to IS 4985 including joint with seal ring conforming to IS 5382 leaving 10 mm gap for thermal expansion 110mm dia.	60	Mtr	111.615	136.99	15290.13

31	Providing and fixing on wall face unplasticized PVC molded fittings / accessories for unplasticized PVC rain water pipe conforming to IS 4985 including jointing with seal ring conforming to IS 5382 leaving 10mm gap for thermal expansion.					
a	Bend 110mm	10	Nos	46	113.14	5204.44
b	Shoe 100mm	10	Nos	20	230.28	4605.60
32	Providing fixing unplasticised pipe clip of approved design to unplasticised PVC rain water by means of 50 x 50 x 50 mm hard wood ply, screwed with M.S. screw 110mm	40	Nos	71	72.81	5169.51
33	Wood Work Providing and fixing flush door shutter non decorative type core of block board constructed with frame of 1 st class hardwood and well matched commercial 3 ply veneering with vertical grains or cross band and face veneers of both faces of shutter 35mm thick including anodized aluminium butt hinges with necessary screw.	3	M ²	15.727	672.5	10576.40
34	Providing and fixing aluminium sliding door bolt anodized transparent or dyed to required colour & shade with nuts & screw etc complete	2	Nos	3	119.36	358.08
35	Providing & fixing aluminium sliding tower bolt transparent or dyed to required colour and shade with nuts and screw etc complete 150 x 10mm	2	Nos	4	38.28	153.12
36	Providing & fixing aluminium handle anodized transparent or dyed to required colour and shade with nuts and screw etc complete 125mm	2	Nos	22	43.89	965.58
38	Applying priming coat with ready mix pink or grey primer of approved brand and manufacture on wood work	6.6	M ²	155.305	11.44	1776.68
39	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade two or more coat on new wood work	6.6	M ²	155.305	23.79	3694.70

11/11/2019
Chito (Director)
11/11/2019

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40	Glass partition work providing and fixing anodized aluminium work of door, windows, ventilators and partition with extruded built up standard tubular and other section of approved make confirming to IS 733 and IS 1285, anodized transparent or dyed to required shade according to IS 1868 fixed with rawl & plug and screws or with fixing slips or with expansion hold fasteners including necessary filling of gaps at junctions at top gaps at junctions at top bottom & sides with required PVC/neoprene felt etc aluminium section shall smooth rust straight metered and jointed mechanically required including beading C.P. brass Stainless steel screws all complete as per architectural drawing and direction of E/I (Glazing and paneling to be paid separately)					
a	For fixed portion	100	kg	333.732	265.38	88565.79
41	Providing and fixing 12mm thick prelaminated three layer medium, density particle board Grade I type II confirming to IS 12823 bonded with phenol formaldehyde synthetic resin of approved brand and manufacture in paneling fixed in aluminium door, windows shutters and partition frames with C.P. Brass/stainless screw etc. all complete. Prelaminated particle board with decorative finish on both side.	15	M ²	21.819	720.81	15727.35
42	Providing and fixing glazing in aluminium door, window ventilator shutters and portions etc. with PVC/neoprene gasket etc. complete with glass pans of 5.5m thickness (weight not less than 13.75kg/M ³)	35	M ²	59.842	581.16	34777.77
43	Providing & fixing double action hydraulic floor spring to approved brand and manufacture (Confirming to IS 6315) for aluminium door including cost of cutting floors of required, embedding in floor and cover plate etc. complete.	2	Nos	6	1531.16	9186.96

My
Chief Engineer (Elect.)

45	Providing and fixing level adjusting hanger of 6mm dia M.S Rod (upto 1200mm length) fixed to reef by means of M.S Angle ceiling cleat 40x40x5mm size 40mm long and expansion hold fastener 12.5mm dia 40mm long including applying priming coat of zinc chromate yellow primer for steel members complete.	150	Nos	164	64.03	10500.92
48	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade two or more coat on new surface	150	M ²	235.747	23.79	5608.42
49	Flooring Work Providing and laying verified floor tiles indifferent size with water absorption less than 0.080% and containing all colour & shade laid on 20mm thick cement motor (1-4) including grouting the joints with cement and matching pigments all complete. Size of tiles - 60x60mm	80	M ²	106.456	1006.14	107109.63
51	Painting of Boundary Finishing wall with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade New work (three or more coats)	385	M ²	1989.914	39.8	79198.57

B & C Bill of Quantity for construction of Power Channel & Tail Race Channel of Sebari S. H. P

B & C-1 Items comes under agreement						
Sl. No	Item of work	Qnty Approve d	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Earth work in filling in all kinds of soil with initial lead & lift as per drawing.	860	M ³	1391.472	48.35	67277.67
4	Extra for additional lead of 1 mtr. Or part there of over initial lift of 1.5 mtr	1800	M ³	6096.494	3.23	19691.67
5	Extra for Wet soil	600	M ³	1405.998	3.23	4541.37
6	Extra for consolidation in all layers	800	M ³	1391.472	20.14	28024.24
9	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	210	Mtr	546	62.89	34337.94
	Canal Bed	180	Mtr	236	42.56	10044.16

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B&C-2 Items comes under Letter no. 2362 dated 14/07/09

3	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	150	M ²	1041.765	65.55	68287.69
5	Providing safety ladder in lined section of canal with M.S. Rod embedded in cement concrete (1:3:6) in accordance with ISS 1966 including royalty all taxes etc al complete as per	2	Nos	3	4722.45	14167.35
6	Providing rough dressed Random rubble stone massonary in cement motor (1:4) in foundation all complete job.	20	M ³	79.299	1395.93	110695.85
7	Supply of Boulder of size 300 without cost of carriage	40	M ³	115.925	336.3	38985.57
8	Labour charges for stone Boulder (concreted) in launching apron and slop (material within 150m lead all lifts) all complete as per approved design.	40	M ³	115.925	281.39	32620.13

D. Bill of Quantity for construction of S.L.R. Bridge on Tail Race Channel of Sebari S. H. P

D-1 Items comes under agreement

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Furnishing & Placing reinforcement concrete in super structure as per drawing and technical specification RCC-M20 for Solid Slab Super structure height 50 mtr	85	M ³	87.995	3186.73	280416.30

D-2 Items comes under Letter no. 2362 dated 14/07/09

3	Providing & laying tar paper Bearing in 5 layers of Bitumen felt type 3 Grade-I confirming to IS 1322 and providing hot sealing compound between each laver	12	M ²	18.6	375.25	6979.65
5	Back filling behind abutment wing wall and return wall complete as per drawing and technical specification.					

Handwritten signature and stamp at the bottom right of the page.

	Granular Material	6	M ³	39.689	272.65	10821.20
	Sandy Material	10	M ³	37.792	269.8	10196.28
7	Construction pre-cast RCC Railing M-30 Grade, aggregate size not exceeding 12mm true to line and grade, tolerance of vertical RCC Post..... as per specification.	32	Mtr	37.86	1183.7	44814.88

इसके अतिरिक्त संवेदक द्वारा एकरारनामा एवं निगम के पत्रांक 2362 के अतिरिक्त कुछ अन्य कार्य मदों को भी पूरा किया जाना आवश्यक था जिसके लिए दर निम्नवत स्वीकृत किया जाता है :-

Sl. No	Agency Letter No.	Description of work	Amount Claimed by Agency (Rs.)	Amount Recommended for Approval (Rs.)
01	SEPL/DHR/262/08-09 Dated 09.03.09	RCC Wall Cutting at Sabari SHP	56,362.00	54,384.00
02	SEPL/DHR/195/09-10 Dated 18.11.09	Cleaning of Muck & Mud from Down Stream	1,05,387.00	1,00,672.00
03	SEPL/DHR/196/09-10 Dated 04.12.09	Sheeting of Power House with departmental GCI Sheet.	12,310.00	11,932.00
04	SEPL/AKS/318/11 Dated 24.04.11	Supplying & Laying interlocking pavers Block	1,97,703.00	1,89,880.00
05	SEPL/AKS/319/11 Dated 26.04.11	Cement Pressure Grouting of Power House	89,273.00	82,940.00
06	SEPL/AKS/320/11 Dated 27.04.11	Dewatering work	1,32,769.00	1,27,516.00
07	SEPL/AKS/320/11 Dated 27.04.11	Providing 2 nos. of 150 mm Deep Tub well and Supply & installation of 500Ltr. Capacity water Tank.	4,63,973.00	2,26,228.00
08	Claim Bill-14/11-12 Dated 27.04.11	Supply & Installation of Lightening Conductor on Power House	11,004.00	10,569.00
Total + Service Tax			10,68,781.00	8,04,121.00

एकरारनामा सं० 06/सिविल/2008-09 दिनांक 09.03.09 को इस हद तक संशोधित किया जाता है ।

विश्वासभाजन,

ह०/-

(मणिराण)

मुख्य अभियंता

ज्ञापांक _____ / पटना, दिनांक _____ /
 प्रतिलिपि श्री पी०पी०शुक्ला, कार्यपालक अभियंता (असै०), सोन नहर जल विद्युत
 परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक
 कार्रवाई हेतु प्रेषित ।

ह०/-
 (मणिशरण)
 मुख्य अभियंता

ज्ञापांक _____ / पटना, दिनांक _____ /
 प्रतिलिपि:- प्रबन्धक (वित्त एवं लेखा), बी०एच०पी०सी०, पटना को सूचनार्थ एवं आवश्यक
 कार्रवाई हेतु प्रेषित । प्रबन्ध निदेशक महोदय की स्वीकृति संचिका सं० Civil/Monitoring/14-
 350/04-III के नोटशीट पृ०/०७ पर प्राप्त है जिसकी छायाप्रति सुलभ प्रसंग हेतु संलग्न है ।
 अनु०-यथोक्त ।

ह०/-
 (मणिशरण)
 मुख्य अभियंता

ज्ञापांक _____ / पटना, दिनांक _____ /
 प्रतिलिपि - श्री ए०के०डी० वर्मा, अधीक्षण अभियंता (वि०) बिहार स्टेट हाइड्रोइलेक्ट्रिक
 पावर कारपोरेशन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-
 (मणिशरण)
 मुख्य अभियंता

ज्ञापांक 936 / पटना, दिनांक 7.5.13 /
 प्रतिलिपि - प्रबन्ध निदेशक महोदय बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन,
 पटना को कृपया सूचनार्थ ।

मणिशरण
 (मणिशरण)
 मुख्य अभियंता

My

Elect.
 Electric
 Ltd

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कार्पोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द्र पटेल मार्ग, पटना- 1

पत्रांक : 3335/
Civil/Misc/14-417/2006

पटना, दिनांक : 24/09/09
M(Shahabad-2)/P-42

सेवा में,

मे० शाहाबाद इंजीनियर्स प्रा० लि०,
पाली रोड,
डेहरी-ऑन-सोन,
रोहतास - 821 307

फैक्स : 0657-2460694

विषय: श्रीखण्डा पावर चैनल एवं टेलरेस चैनल के कार्य मद PCC M-15 lining की दर स्वीकृत करने के संबंध में ।

- प्रसंग:
1. एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008.
 2. ए.एच.ई.सी., रुड़की का पत्रांक- AHEC/C-2851015
 3. ए.एच.ई.सी., रुड़की का पत्रांक- AHEC/C-2851014
 4. आपका पत्रांक- SEPL/DHR/47/09-10-दिनांक 02.06.2009.

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 को सुलभ सुविधा हेतु नीचे उद्धृत किया जा रहा है :-

पावर चैनल

Item of work	Qty.	Unit	Rate	Amount
Providing PCC (1:3:6) with approved quality of graded stone chip of 20mm and down size and coarse sand of approved quality of lug slab, cross and longitudinal sleepers for lining in canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. will all lifts and leads, removal of shuttering etc. all complete as per specification and direction of Engineer-in-Charge.	40	M ³	4000	1,60,000/-

उपरोक्त कार्य मद से स्पष्ट है कि एकरारनामा के तहत पावर चैनल में लाईनिंग कार्य हेतु M-10 कंक्रीट का ही प्रावधान किया गया था, परन्तु ए.एच.ई.सी., रुड़की द्वारा निर्गत नक्शा संख्या-AHEC/C-2851015 एवं AHEC/C-2851014 में पावर चैनल के अलावे टेलरेस चैनल के लाईनिंग कार्य में भी M-15 में कंक्रीट करने का प्रावधान किया गया ।

निगम द्वारा इन नक्शों के अनुमोदनोपरान्त संवेदक द्वारा M-15 कंक्रीट लाईनिंग का दर निर्धारण करने हेतु उनके प्रासंगिक पत्र के द्वारा अनुरोध प्राप्त हुआ । समीक्षोपरान्त यह पाया गया कि एकरारनामा में उल्लेखित M-10 कंक्रीट के दर से संवेदक द्वारा वांछित M-15 कंक्रीट का दर मात्र 12.97 प्रतिशत अधिक है ।

By *Chief Engineer (Elect.)*

उपरोक्त परिप्रेक्ष्य में आलोक में एं.एच.ई.सी., रूडकी से प्राप्त आलेख के आलोक में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 में निहित M-10 कंक्रीट लाईनिंग को संशोधित करते हुए पावर चैनल एवं टेलरेस चैनल के लाईनिंग में M-15 कंक्रीट लाईनिंग के लिए निम्न दर की स्वीकृति दी जाती है :-

Item of work	Qty.	Unit	Rate	Amount
Providing PCC lining in M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm and down) and coarse sand of approved quality and requisite F.M. in side and bottom portion of the canal in panels with construction joint including cost of form work and its removal, curing, royalty and all other taxes complete job as per specification and direction of Engineer-in-Charge.	448	M ³	4518.60	20,24,332.80

एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008 को आंशिक रूप से इस हद तक संशोधित समझा जाय।

विश्वासभाजन,

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री पी0 पी0 शुक्ला, कार्यपालक अभियंता (असैनिक)/सहायक प्रबंधक (लेखा), सोन नहर जल विद्युत परियोजना, बी0एम0पी0 कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री पी0 एन0 सिंह, परियोजना प्रबंधक, चांडिल डैम हाइड्रोइलेक्ट्रिक प्रोजेक्ट, पो0- धोडालिंग, जिला- सरायकेला-खरसौवा, झारखंड को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

फैक्स नं0 - 0657-2464882

ईमेल - pradeepnsingh@sify.com

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री ए0के0डी0वर्मा, अधीक्षण अभियंता (वि0)/श्री मणि शरण, प्रबंध निदेशक के तकनीकी सचिव, बी0एच0पी0सी0लि0, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

141

(3.)

89

ज्ञापांक: _____/ पटना, दिनांक: _____/
प्रतिलिपि- वित्तीय परामर्शी/प्रबंधक (लेखा), बी०एच०पी०सी०लि०, पटना को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: 3335

पटना, दिनांक: 24/09/09

प्रतिलिपि- प्रबंध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।

(जवाहर लाल)

मुख्य अभियंता (वि०)

Wj
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sonu Bazarwan Patna.

**Annexure E –
Audited Accounts of FY 2009-10 to FY 2015-16**

ANNEXURE – E

**Audited Accounts of FY 2009-10 to FY 2015-
16**

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2010

PARTICULARS	Schedule	As at 31.03.2010	As at 31.03.2009
SOURCES OF FUNDS			
<u>Shareholders' Funds</u>			
Capital	1	99,04,00,000.00	99,04,00,000.00
<u>Government Grants</u>	2	15,81,00,500.00	13,40,38,000.00
<u>Loan Funds</u>			
Unsecured Loans	3	5,17,96,63,630.22	4,58,73,24,169.22
		6,32,81,64,130.22	5,71,17,62,169.22
APPLICATION OF FUNDS			
<u>Fixed Assets</u>			
Gross Block	4	2,02,64,83,000.33	1,71,56,10,504.31
Less : Depreciation		66,68,93,824.65	59,26,18,393.12
Net Block		1,35,95,89,175.68	1,12,29,92,111.19
Capital work-in-progress	5	2,80,59,95,502.86	2,85,24,67,003.80
		4,16,55,84,678.54	3,97,54,59,114.99
<u>Current Assets, Loans & Advances</u>			
Inventories	6	17,61,00,375.70	17,59,62,663.60
Sundry Debtors	7	20,47,13,265.00	23,25,44,078.00
Cash & Bank Balances	8	57,98,61,446.19	44,86,54,724.80
Loans & Advances	9	45,27,21,756.20	34,71,13,373.68
		1,41,33,96,843.09	1,20,42,74,840.08
<u>Less : Current Liabilities and Provisions</u>			
Liabilities	10	9,43,81,200.02	8,96,61,044.32
Provisions	11	0.00	4,16,860.00
		9,43,81,200.02	9,00,77,904.32
Net Current Assets		1,31,90,15,643.07	1,11,41,96,935.76
<u>Profit and Loss Account</u>			
As per accounts annexed		84,35,63,808.61	62,21,06,118.47
<u>Significant Accounting Policies and Notes on Accounts :</u>			
	18	6,32,81,64,130.22	5,71,17,62,169.22

(Khushboo)
Company Secretary

(A. K. Gupta)
Director

(Atok Kumar)
Managing Director

In terms of our report of even date

GUPTA & HARP

(A. K. Gupta)
Partner

Membership No.015550

5A/3, Lakshmi Narayan Singh Path,
North Shrikrishna Puri,
Patna 800013.

The 12th day of March, 2019

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna

PROFIT & LOSS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2010.

PARTICULARS	Schedule	Current Year	Previous Year
		₹	₹
INCOME			
Sales	12	6,78,55,187.00	10,48,12,890.00
Other Income	13	3,05,49,017.74	3,33,69,618.29
		<u>9,84,04,204.74</u>	<u>13,81,82,508.29</u>
EXPENDITURE			
Operation and Maintenance of Power House	14	2,16,20,647.00	2,01,82,416.70
Repairs and Maintenance of Power House		72,76,879.00	78,84,503.00
Administrative and Management Expenses	15	5,84,57,060.07	6,49,17,428.59
Interest & Finance charges	16	15,91,79,185.50	11,80,39,529.06
Depreciation	17	7,33,31,649.31	6,28,54,839.15
		<u>31,98,65,420.88</u>	<u>27,38,78,716.50</u>
Loss for the year before tax		(22,14,61,216.14)	(13,56,96,208.21)
Tax			
Fringe Benefit Tax			
Provided for current year	0.00		4,16,860.00
Liability written back	(3,526.00)		0.00
Paid for earlier year	0.00		8,17,175.00
		(3,526.00)	12,34,035.00
Loss for the year		(22,14,57,690.14)	(13,69,30,243.21)
Loss brought forward		(62,21,06,118.47)	(48,51,75,875.26)
Loss carried to Balance Sheet		(84,35,63,808.61)	(62,21,06,118.47)

Significant Accounting Policies and Notes 18
on Accounts :

Khushboo
(Khushboo)
Company Secretary

R. Gupta
Director

Al
(Alok Kumar)
Managing Director

In terms of our report of even date
for GUPTA & HARRY



(A. K. Gupta)
Partner
Membership No.015550

SA/3, Lakshmi Narayan Singh Path,
North Shrikrishna Puri,
Patna 800013.
The 12th day of ... , 2019

May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2010.

Particulars	As at 31.03.2010	As at 31.03.2009
	₹	₹
SCHEDULE: 1		
Share Capital		
Authorised		
10,00,000 Equity share of Rs. 1000/- each	1,00,00,00,000.00	1,00,00,00,000.00
Issued Subscribed and Paid-up		
9,90,400 Equity share of Rs. 1000/- each fully paid-up in cash	99,04,00,000.00	99,04,00,000.00
	99,04,00,000.00	99,04,00,000.00
SCHEDULE: 2		
Government Grants		
Capital Subsidy		
As per last account	13,40,38,000.00	11,76,25,000.00
Addition during the year	2,40,62,500.00	1,64,13,000.00
	15,81,00,500.00	13,40,38,000.00
SCHEDULE: 3		
Insecured Loans		
Other Loan		
From Government of Bihar		
Principal	1,76,37,24,000.00	1,58,49,56,000.00
Interest accrued	2,51,59,57,699.22	2,30,75,29,814.22
	4,27,96,81,699.22	
From Government of Bihar under RIDF (NABARD) Scheme		
Principal	75,79,66,000.00	59,15,00,000.00
Interest accrued	14,20,15,931.00	10,33,38,355.00
	89,99,81,931.00	
	5,17,96,63,630.22	4,58,73,24,169.22

Notes:

1. During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
2. During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
3. During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
4. During the year 2009-10 loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

K. K. Singh

P. K. Singh

AP



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna.

Sl. NO.	ZAKTICULARS	GROSS BLOCK			DEPRECIATION			NET BLOCK	
		As at 01.04.2009	Addition during the year	Deduction during the year	As at 31.03.2010	During the year	Adjustment	As at 31.03.2010	As at 31.03.2009
		₹	₹	₹	₹	₹	₹	₹	₹
1	Land - Freehold	2,02,02,217.53	1,81,389.00	0.00	2,03,83,606.53	0.00	0.00	2,03,83,606.53	2,02,02,217.53
2	Land - Leasehold	1,85,800.00	0.00	0.00	1,85,800.00	0.00	0.00	1,85,800.00	1,85,800.00
3	Buildings - Residential	1,83,03,457.67	0.00	0.00	1,83,03,457.67	2,96,346.36	0.00	42,60,026.82	1,85,800.00
4	Buildings - Non Residential	1,25,47,300.09	0.00	0.00	1,25,47,300.09	3,78,938.46	0.00	57,84,824.13	1,43,41,777.21
5	Buildings - Sheds	7,29,825.55	0.00	0.00	7,29,825.55	0.00	0.00	7,29,825.55	71,41,404.42
6	Roads & Bridges	4,29,55,182.07	7,15,835.00	0.00	4,36,71,017.07	1,15,864.42	0.00	1,90,69,810.73	0.00
7	Water Supply Installation	1,90,280.36	0.00	0.00	1,90,280.36	6,469.53	0.00	98,467.44	2,52,04,237.76
8	Electric Installation	15,88,89,578.56	86,622.00	0.00	15,89,76,200.56	1,13,69,067.87	0.00	15,48,45,637.63	98,262.45
9	Plant & Machinery	67,12,90,465.12	15,83,47,229.00	0.00	82,96,37,694.12	2,88,07,339.51	0.00	23,28,06,645.31	1,54,11,008.80
10	Power House	75,53,68,923.22	14,86,41,154.74	0.00	90,40,10,077.96	3,07,36,343.91	0.00	22,47,09,701.26	46,72,91,159.32
11	Furniture & Fixtures	29,83,313.11	1,53,125.00	0.00	31,36,438.11	1,57,524.48	0.00	19,60,691.31	56,13,95,565.87
12	Office Equipments	47,38,191.59	7,78,399.00	0.00	55,16,590.59	2,21,135.20	0.00	23,20,598.78	11,80,146.28
13	Other Equipments	2,29,13,530.94	18,334.00	0.00	2,37,46,964.94	7,63,871.25	0.00	1,65,67,072.71	26,38,728.01
14	EPBX Machine	4,22,050.00	0.00	0.00	4,22,050.00	20,047.38	0.00	1,73,725.65	70,90,329.48
15	Books	3,06,896.46	33,724.28	0.00	3,40,620.76	13,756.88	0.00	2,19,431.94	1,99,466.54
16	Vehicles	21,12,385.46	18,33,119.00	0.00	39,45,504.46	0.00	0.00	21,12,251.60	133.95
17	Bicycles	11,223.14	0.00	0.00	11,223.14	741.73	0.00	9,841.39	2,123.48
18	Computers	13,87,637.52	83,603.00	0.00	14,41,240.52	1,78,685.91	0.00	12,66,464.70	2,69,688.73
19	Other Assets	1,02,245.90	0.00	0.00	1,02,245.90	4,308.64	0.00	36,832.82	69,721.72
Total :-		1,71,56,10,504.51	31,08,72,496.02	0.00	2,03,64,83,000.53	7,42,75,431.53	0.00	66,68,93,874.65	1,12,29,92,111.19
Previous Year :-		1,47,70,93,779.20	23,85,16,725.11	0.00	1,71,56,10,504.31	6,38,00,612.16	0.00	59,26,18,393.12	64,82,76,028.24



Handwritten signature/initials

Handwritten signature/initials

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Patna
31.03.2010
Annual Report Construction/Installation

Sl. NO.	PARTICULARS	As at 31.03.2009	Accrued during the year	Underpending the year	As at 31.03.2010
		₹	₹	₹	₹
1	Building	76,51,514.24	0.00	0.00	76,51,514.24
2	Generating Equipments	8,18,24,802.03	1,59,000.00	0.00	8,19,83,802.03
3	Power House	13,76,44,309.61	0.00	0.00	13,76,44,309.61
4	Transformer (Sub-Station Equipments)	42,93,693.31	0.00	0.00	42,93,693.31
5	Auxiliary & Ancillary Equipments	4,09,542.00	0.00	0.00	4,09,542.00
6	Road & Bridges	90,67,794.41	0.00	0.00	90,67,794.41
7	Water Supply Installation	11,64,233.42	0.00	0.00	11,64,233.42
8	Intake Gates	58,12,325.74	0.00	0.00	58,12,325.74
9	Generating Set	1,14,594.24	0.00	0.00	1,14,594.24
10	Expenses on Investigation	5,52,005.05	0.00	0.00	5,52,005.05
11	Power/Elec. Channel	3,39,66,820.04	18,40,804.09	0.00	3,58,07,624.13
12	Excavation Work-in-Progress	2,43,680.00	0.00	0.00	2,43,680.00
13	Transmission System	84,47,033.18	0.00	0.00	84,47,033.18
14	Fencing Wall	22,724.00	0.00	0.00	22,724.00
15	Rock Excavation Abow Pen Stock	58,89,944.20	0.00	0.00	58,89,944.20
16	Tail & Tunnel	1,49,61,039.70	0.00	0.00	1,49,61,039.70
17	Fabrication Erection	2,46,92,507.00	0.00	0.00	2,46,92,507.00
19	Construction of Pen Stock	5,87,542.00	0.00	0.00	5,87,542.00
20	Plantation	54,978.00	0.00	0.00	54,978.00
23	Micro Hydro Set	8,14,029.00	0.00	0.00	8,14,029.00
24	Demolishing W.P.D.	97,17,366.00	0.00	0.00	97,17,366.00
25	Construction of Slog & Goum	2,30,116.00	0.00	0.00	2,30,116.00
26	Power House (Amethi)	98,53,378.45	1,20,01,033.00	0.00	2,25,54,409.45
27	Power House (Anwal)	4,05,78,569.00	23,53,797.00	0.00	4,29,32,366.00
28	Power House (Belsar)	2,83,85,648.00	56,91,803.00	0.00	3,39,97,451.00
29	Power House (Jatim)	1,93,06,480.00	0.00	0.00	1,93,06,480.00
30	Power House (Jainaga)	4,14,69,256.00	0.00	4,14,69,256.00	0.00
31	Power House (LGP)	1,42,40,389.43	0.00	0.00	1,42,40,389.43
32	Power House (Rampur)	98,88,054.73	42,94,534.00	0.00	1,41,62,608.73
33	Power house (Nahar)	53,20,420.00	12,09,970.00	0.00	65,30,390.00
34	Power House (Nadi)	8,52,489.00	0.00	0.00	8,52,489.00
35	Power House (Paharna)	77,47,709.00	68,34,286.00	0.00	1,46,81,995.00
36	Power House (Rajapur)	1,97,72,535.00	1,67,48,767.00	0.00	3,65,21,702.00
37	Power House (SDP)	2,32,60,103.66	0.00	0.00	2,32,60,103.66
38	Power House (Sebari)	3,91,24,560.00	0.00	3,81,24,560.00	0.00
39	Power House (Sikinda)	4,90,60,848.00	0.00	4,90,60,848.00	0.00
40	Power House (TB)	10,86,354.00	0.00	0.00	10,86,354.00
41	Power House (Tajpura)	4,17,43,762.00	38,37,475.00	0.00	4,55,81,237.00
42	Power House (Waldad)	1,06,91,826.00	0.00	0.00	1,06,91,826.00
43	Land - Triveni	(10,19,922.00)	0.00	0.00	(10,19,922.00)
44	Land - Sebari	0.00	12,70,800.00		12,70,800.00
45	Construction of EM Anwal	38,93,742.00	0.00	0.00	38,93,742.00
46	Construction of EM Amethi	1,22,86,325.00	0.00	0.00	1,22,86,325.00
47	Construction of EM Belsar	2,09,65,425.00	0.00	0.00	2,09,65,425.00
48	Construction of EM Jainaga	1,95,42,800.00	0.00	2,93,18,085.00	(1,03,73,276.00)
49	Construction of EM Nahar	21,71,125.00	0.00	0.00	21,71,125.00
50	Construction of EM Paharna	62,19,775.00	18,04,000.00	0.00	80,23,775.00
51	Construction of EM Rajapur	3,05,70,227.00	67,42,714.00	0.00	3,73,12,941.00
52	Construction of EM Rampur	1,11,32,728.00	0.00	0.00	1,11,32,728.00
53	Construction of EM (Sebari)	2,70,54,535.00	0.00	2,70,54,535.00	0.00
54	Construction of EM Sikinda	1,28,29,406.00	0.00	1,28,29,406.00	0.00
55	Construction of EM (Tajpura)	1,98,75,798.00	0.00	0.00	1,98,75,798.00
56	Construction of Electric Equipment (Waldad)	1,47,12,301.00	0.00	0.00	1,47,12,301.00
57	Designing & Drawing	4,65,500.00	0.00	0.00	4,65,500.00
	Total A	89,12,45,745.44	6,57,89,003.09	19,92,54,690.00	75,77,80,058.53
	Previous Year	55,78,33,821.44	12,18,39,349.00	19,84,37,428.00	89,12,45,745.44

Khushtoo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

P. S. Singh
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

AR
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Hg
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Development Expenditure				
PARTICULARS	As at 31.03.2009	Addition during the year	Deduction during the year	As at 31.03.2010
	₹	₹	₹	₹
1 Project Report Survey & Consultancy Charges	1,64,77,053.46	0.00	0.00	1,64,77,053.46
2 Preliminary Expenses - Projects	4,55,24,462.82	51,30,100.00	36,87,328.00	4,69,67,234.82
3 New Project Expenses	6,53,546.00	0.00	1,50,000.00	5,03,546.00
4 Development Expenditure as per last account	63,27,03,539.38	0.00	0.00	63,27,03,539.38
5 Development Expenditure (Detail of addition given below)				
Amethi	73,32,701.70	33,73,733.00	0.00	1,07,06,434.70
Arwal	86,53,110.79	33,03,581.00	0.00	1,19,56,691.79
Baerai	0.00	2,59,998.00	0.00	2,59,998.00
Bethnaha	0.00	13,01,254.00	0.00	13,01,254.00
Betsar	1,35,51,815.56	80,06,158.00	0.00	1,95,56,771.56
Chandil	33,31,84,639.85	3,35,08,881.07	0.00	36,67,84,620.92
Dagmara	0.00	2,04,93,793.73	0.00	2,04,93,793.73
Dhoba	0.00	1,24,998.00	0.00	1,24,998.00
Jainagar	1,86,88,722.93	31,65,575.00	2,18,54,297.93	0.00
Jalimogah	1,33,95,153.89	13,32,500.00	0.00	1,47,27,653.89
Katni	0.00	3,24,998.00	0.00	3,24,998.00
Lower Ghosi	86,58,301.47	7,01,848.00	0.00	93,59,950.47
Mathuli	0.00	1,29,999.00	0.00	1,29,999.00
Mandla (North bank)	63,83,43,456.56	1,85,17,835.76	0.00	65,48,61,344.32
Nalwar	78,14,083.00	21,40,583.00	0.00	99,54,666.00
Netamati	11,36,005.68	79,196.00	0.00	12,15,201.68
Nindigah	1,33,96,727.47	13,32,560.00	0.00	1,47,29,227.47
Nirmali	0.00	11,38,439.00	0.00	11,38,439.00
Pharna	1,33,18,857.53	62,40,239.00	0.00	1,95,58,896.53
Rajapur	1,01,32,303.73	35,95,116.00	0.00	1,37,27,419.73
Rampur	41,47,132.43	22,08,668.00	0.00	63,55,821.43
Sadani	1,96,63,446.00	17,54,259.00	0.00	2,14,17,705.00
Sabari	1,47,81,264.14	30,92,056.50	1,78,73,320.64	0.00
Sone Eastern	24,23,286.91	0.00	0.00	24,23,286.91
Srikhinda	1,25,05,474.01	24,28,792.16	1,49,34,266.17	0.00
Telpura	2,27,57,543.65	79,40,043.00	0.00	3,06,97,586.65
Tenu	5,89,89,691.01	41,84,105.48	0.00	6,31,53,796.50
Waldad	93,25,815.73	39,84,830.00	0.00	1,33,10,445.73
Total of 5	1,22,71,99,146.04	13,09,33,759.71	5,46,61,894.74	1,30,34,71,021.01
6 Interest on Loan - Bihar Government	1,42,60,418.13	41,03,483.00	0.00	1,83,63,881.13
7 Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00	0.00	37,577.00
8 Interest on Loan - NABARD	2,15,68,062.00	53,26,076.00	0.00	2,68,94,138.00
9 Transfer from Head Office	27,97,453.53	0.00	0.00	27,97,453.53
Total B	1,96,12,21,258.36	14,54,93,398.71	5,84,99,212.74	2,04,82,15,444.33
Previous Year	1,83,16,96,667.98	17,67,75,400.12	4,72,50,809.74	1,96,12,21,258.36
Total A+B	2,85,24,67,003.80	21,12,82,401.80	25,77,53,902.74	2,80,59,95,502.86

Kushthia
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

P. B. Singh
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

A. K.
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



H. V.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Eastern

Detail of Development Expenditure (Not)

	2009-10	2008-09
1 INCOME	₹	₹
Interest on FD		
Sale of Tender Paper/BOD	37,020.00	68,281.41
Interest on Motorcycle Adv	0.00	1,10,000.00
Recovery of Electricity	0.00	15,000.00
Recovery of House Rent	0.00	0.00
Recovery against material	0.00	0.00
Recovery of Penalty	0.00	14,40,829.00
Misc Income	0.00	80,665.00
	6,000.00	1,74,453.48
Total 1	43,020.00	18,87,278.89
2 EXPENDITURE		
Salary & Allowance		
Uniform & Livenes	66,86,672.00	44,62,536.00
Medical Expense	10,594.00	1,120.00
Survey & Investigation	4,284.00	42,222.00
Rent	0.00	49,979.00
Travelling & Conveyance	85,200.00	87,000.00
Telephone & Telex Charges	2,60,878.00	3,35,765.00
Printing & Stationary	60,917.00	47,481.00
Postage	33,856.00	30,215.00
Petrol, Oil & Lubricants	2,401.00	1,402.00
Bank Commission	2,00,362.60	2,54,484.10
Repairs & Maintenance	6,238.50	6,199.00
Transportation/Freight & Carriage Charges	3,66,252.00	2,84,841.00
Insurance	20,050.00	1,02,118.00
Hire Charges of Vehicle	3,27,059.00	2,74,376.00
Preparation of E-TDS	3,43,888.00	2,53,452.00
Consultancy/Legal Expenses	6,500.00	8,196.00
Entertainment	4,57,860.00	18,33,571.00
Interest on Government of Bihar Loan	81,510.00	23,038.00
Interest on Government of Bihar Loan -RIDF (NABARD)	5,88,57,214.00	9,56,10,615.88
Testing	1,96,30,522.50	2,09,43,196.00
Newspaper	0.00	2,24,720.00
Rates & Taxes	1,160.00	1,733.00
Miscellaneous Expenses	8,000.00	0.00
Administrative & Management Expenses (HO) - Allocated	72,504.00	1,62,069.00
Salary Allocated - Other Projects	3,87,29,171.89	2,32,05,379.06
Depreciation	27,48,903.00	0.00
	9,43,782.22	9,45,803.01
Total 2	13,09,76,779.71	14,91,91,512.05
NET (2-1)	13,09,33,759.71	14,73,04,233.16

K. K. K. K.

R. K. K.

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Chief Engineer (Elect.)
Bihar State Power Corporation Ltd.
Patna, Bihar - 800 001

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Particulars	As at 31.03.2010	As at 31.03.2009
SCHEDULE : 6	₹	₹
Inventories		
Capital Stores		
Materials issued to contractors	15,08,15,959.38	15,08,15,959.38
Stationery Items	2,49,08,728.93	2,49,08,728.93
Exide Battery	2,84,004.60	1,46,292.50
Stock Suspense	23,895.68	23,895.68
	67,787.11	67,787.11
	17,61,00,375.70	17,59,62,663.60

SCHEDULE : 7

Sundry Debtors

(Unsecured, considered good)

Debts outstanding for a period

exceeding six months

Other debts

17,62,98,150.00	19,33,17,192.00
2,84,15,115.00	3,92,26,886.00
20,47,13,265.00	23,25,44,078.00

SCHEDULE : 8

Cash and Bank Balances

Balance with Scheduled Banks in Current Account

Short Term deposits with bank

PL Account with SBI Secretariat Branch

Cash on hand

Cheques in hand

Stamps in hand

3,59,12,587.32	9,99,68,939.25
24,19,50,000.00	34,44,50,000.00
14,620.00	14,620.00
3,83,728.87	2,90,045.55
30,15,96,000.00	39,20,000.00
4,510.00	11,120.00
57,98,61,446.19	44,86,54,724.80

SCHEDULE : 9

Loans and Advances

(Unsecured, considered good)

Advances receivable in cash or in kind

Advance - Tax Deposit

Recoverables

Prepaid Expenses - Insurance

Receivables- Energy Dept. Govt of Bihar

Interest Accrued on Fixed Deposits

Security Deposit - BSEB (TB)

Security Deposit - (Telephone)

Advance for land aquisition

Ranchi Project Office

Inter Unit Current Account

40,02,20,659.10	31,55,52,659.40
99,01,652.96	67,49,938.00
15,77,067.17	15,77,067.17
10,000.00	10,000.00
41,40,967.10	40,43,086.10
3,59,50,525.00	1,82,59,738.14
12,000.00	12,000.00
10,000.00	10,000.00
5,00,000.00	5,00,000.00
2,38,066.00	2,38,066.00
1,60,818.87	1,60,818.87
45,27,21,756.20	34,71,13,373.68

Khushto
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
Patna

PRIN
Bihar State Hydro Electric
Power Corporation Ltd.
Patna

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14
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Particulars	As at 31.03.2010	As at 31.03.2009
SCHEDULE: 10		
Liabilities		
Sundry Creditors		
Liabilities for expenses	94,46,046.91	94,09,838.91
Other Liabilities	1,51,74,656.91	1,48,96,049.71
Income Tax deducted at source	1,02,65,594.48	1,01,94,606.98
Security Deposits	3,77,881.59	3,39,764.59
Deductions from Contractors	3,36,55,629.88	3,21,11,937.88
Royalty	2,14,29,624.97	1,80,32,878.97
Sales Tax	(5,70,370.25)	(5,71,550.25)
VAT	(96,81,482.07)	(95,74,477.07)
Service Tax	1,23,059.00	0.00
Grant in Aid	(1,53,600.00)	0.00
Irrigation Department	(13,92,198.00)	(13,92,198.00)
Interest accrued - PFC Loan	1,15,00,000.00	1,15,00,000.00
Group Gratuity Payable	45,31,253.00	45,31,253.00
Suspense	(2,77,372.00)	2,30,464.00
	(47,524.40)	(47,524.40)
	9,43,81,200.02	8,96,61,044.32

SCHEDULE: 11

Provision

Provision for Fringe Benefit Tax

0.00

4,16,860.00

0.00

4,16,860.00

Particulars	Current Year	Previous Year
	₹	₹

SCHEDULE: 12

Sales

Sale of Electricity

6,78,55,187.00

10,48,12,890.00

6,78,55,187.00

10,48,12,890.00

SCHEDULE: 13

Other Income

Interest - Fixed Deposits

2,69,46,260.74

3,02,11,442.72

Interest - Other

1,41,726.00

1,41,726.00

2,42,682.00

63,493.00

Interest - House Building Advance

9,158.00

1,39,000.00

Interest - Marriage Advance

52,847.00

21,360.00

Interest - Motor Cycle Advance

41,259.00

45,582.00

Recovery of Electricity

1,25,604.00

41,039.00

House Rent

5,656.00

2,17,247.00

Insurance Claim

14,00,000.00

0.00

Recovery of Materials

15,70,400.00

0.00

Sale of Tender Paper

13,425.00

14,91,950.00

Miscellaneous Income

3,05,49,017.74

11,38,504.57

3,33,69,618.29

SCHEDULE: 14

Operation and Maintenance of Power House

Operation and Maintenance

2,16,20,647.00

2,01,82,416.70

2,16,20,647.00

2,01,82,416.70



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
- Bhawan, Patna -

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Particulars		Current Year	Previous Year
		₹	₹
SCHEDULE : 15			
Administrative and Management Expenses			
Managing Director's Remuneration			
Salary & Allowance	14,46,948.00	5,56,848.00	
Gratuity Premium under L.I.C. Scheme	5,89,73,970.00	4,51,87,585.60	
DLI and P.F. Administrative charges	19,44,681.00	35,96,926.25	
Uniform and Liveries	2,46,155.00	1,34,519.00	
Reimbursement of Medical & Educational Expenses	44,418.50	1,28,858.00	
Account Computerisation	6,36,145.00	5,00,002.00	
Rent	4,21,307.00	4,37,535.00	
Electricity	15,11,448.00	14,00,026.00	
Travelling & Conveyance	13,68,983.00	15,50,092.01	
Petrol, Oil & Lubricants	20,25,903.00	16,89,824.00	
Insurance	29,38,407.48	23,34,205.30	
Advertisement	0.00	25,892.00	
Telephone & Telex Charges	43,28,190.00	45,52,279.00	
Internet Expenses	7,76,103.61	8,54,582.48	
Printing & Stationary	23,779.00	0.00	
Postage	10,32,862.90	9,22,619.25	
Conference and Seminar	1,39,508.10	60,534.16	
Bank Charges	2,76,733.00	5,690.00	
Repairs - Vehicles	79,840.50	2,41,280.00	
Repairs - Building	1,81,209.00	2,07,645.00	
Repairs - Plant	28,63,053.75	57,50,614.00	
Repairs - Other	5,03,358.00	14,53,614.00	
Hire & Rental Charges	11,32,276.00	14,75,577.00	
Licence & Registration Fee	37,33,870.00	26,22,667.00	
Consultancy/Legal & Professional fees	1,44,500.00	3,93,427.00	
D.P.R Expenses	92,66,406.00	57,62,320.00	
Statutory Auditors Fee	2,86,191.00	3,93,260.00	
Internal Auditors Fee	38,605.00	38,605.00	
Tax Audit Fees	22,612.00	22,612.00	
Entertainment	24,266.00	24,266.00	
Survey & Investigation	9,06,672.62	6,76,012.50	
News Paper	0.00	98,874.00	
Transportation Charges	24,475.00	29,723.00	
Grant for Purchase of Computer	58,375.00	12,320.00	
Donation & Subscription	20,791.00	9,658.00	
Plantation	18,20,249.00	50,51,000.00	
Testing & Commissioning	21,750.00	47,338.00	
Miscellaneous Expenses	9,48,978.00	0.00	
	7,22,114.50	5,20,790.00	
	10,09,35,134.96	8,87,69,620.55	
Transfer to Capital Work in Progress (Schedule 5)	(4,24,78,074.89)	(2,38,52,191.96)	
	5,84,57,060.07	6,49,17,428.59	

Khushboo

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CHIEF ACCOUNTANT (Elect.)
Bihar State Hydroelectric Power Corporation Ltd
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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 9 -

Particulars	Current Year	Previous Year
	₹	₹

SCHEDULE: 16

Interest & Finance Charges

Interest on Term Loans

Government of Bihar

Government of Bihar - RIDF (NABARD)

20,84,27,885.00

21,30,26,345.00

3,86,77,576.00

3,02,72,655.00

Transfer to Capital Work in Progress

24,71,05,461.00

24,32,99,000.00

(8,79,26,275.50)

(12,52,59,470.94)

15,91,79,185.50

11,80,39,529.06

SCHEDULE: 17

Depreciation

As per Schedule 4

Transfer to Capital Work in Progress

7,42,75,431.53

6,38,00,642.16

(9,43,782.22)

(9,45,803.01)

7,33,31,649.31

6,28,54,839.15

K. K. Sharma

P. K. Singh

AL



Ky
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 10 -

SCHEDULE : 18

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHIPCL") for the year ended March 31, 2010. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 1956 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies

2.1 Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to comply with the mandatory Accounting Standards referred in Section 211(3C) of the Companies Act, 1956.

- 2.2 Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

2.3 Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

2.4 Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.

2.5 Fixed Assets, Depreciation and Amortization

Fixed Assets

Fixed assets are stated at cost of acquisition/construction less disposal/ depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

The company has not revalued any of its assets as on the date of the financial statement.

Krushna
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Patna

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Bihar State Hydroelectric
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Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
 - at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
 - at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

2.6 Capital Work in Progress

Capital work in progress includes

- (i) expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production.
- (ii) administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition.
- (iii) expenditure incurred on start up and commissioning of the project, including expenditure incurred on test run, and
- (iv) borrowing cost.

2.7 Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.

2.8 Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

2.9 Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

Khushboo

Pratik

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2.10 Employees Benefits

- (i) For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- (ii) Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes
- (iii) The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

2.11 Apportionment of Loan and Borrowing Cost

- a. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.
- b. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- c. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

2.12 Apportionment of Head Office Expenses

- a. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- b. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- c. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

2.13 Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

2.14 Taxes on Income

- (i) Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- (ii) In view of uncertainty of future taxable income no deferred tax results from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006..

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2.15 Fringe Benefit Taxes

No provision for Fringe Benefit Tax payable was made up to financial year 2007-08. During the financial year 2008-09 liability was determined in accordance with the provision of the Income Tax Act, 1961 and provision was made. Liability up to financial year 2007-08 has since been paid. This tax is not applicable from the financial year 2009-10.

2.16 Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. These are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

3. Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.

4. Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

5. Bank Accounts

5.1 Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.

5.2 Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements. Balance confirmations from banks remain to be obtained.

5.3 It includes Rs. 1,78,606.15 related to balances of inoperative accounts remain to be confirmed.

6. No director of this company is disqualified in terms of section 274(1)(g) of the Companies Act, 1956.

7. Amount of Contingent Liabilities not quantifiable on account of:

- tax demands including interest and penalties
- penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities

The material issued to contractors, claim recoverables, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.

The previous year figures have been regrouped/reclassified, wherever necessary, to conform to the current presentation.

Khushboo

B. S. Jha

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10. Information as required under Part IV of Schedule VI of the Companies Act, 1956

BALANCE SHEET ABSTRACT AND COMPANY'S GENERAL BUSINESS PROFILE.

I Registration Details			
Registration No.	1627	State Code	03
Balance Sheet Date	31.03.2010		
II Capital Raised During the year (Amount in Rs. Thousands)			
Public Issue	NIL	Right Issue	NIL
Bonus Issue	NIL	Private Placement	NIL
III Position of Mobilisation and Deployment of Funds (Amount in Rs. Thousands)			
Total Liabilities	6328164	Total Assets	6328164
Sources of Funds			
Paid-up Capital	990400	Reserve & Surplus	NIL
Government Grants	158100		
Secured Loans	NIL	Unsecured Loans	5179664
Application of Funds			
Net Fixed Assets (including capital work in progress)	4165585	Investments	NIL
Net Current Assets	1319016	Misc. Expenditure	NIL
Accumulated Losses	843564	Deferred Tax Assets	NIL
IV Performance of Company (Amount in Rs. Thousand)			
Turnover	67855	Total Expenditure	319865
Profit Before Tax (including other income) (+ for profit, - for loss)	-221461	Profit After Tax	-221458
Earnings/(Loss) Per Shares	Rs.(223.60)	Dividend Rate %	NIL
V Generic Name of Three Principal Products / Services of Company (As per monetary terms)			
Not applicable (Generation of Electricity)			

Khushboo
(Khushboo)
Company Secretary

RBZ
Director

AK
(Alok Kumar)
Managing Director



In terms of our report of even date
for GUPTA & HARRY
Chartered Accountants

(A.K. Gupta)

Partner

Membership No. 015550

5A/3, Lakshmi Narayan Singh Path,
North Shri Krishna Puri,
Boring Road, Patna-800013.
the 12 day of , 2019

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Chief Engineer (Elect.)
Bihar State Hydroelectric
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Bane Bhawan, Patna-1

SALARPURIA JAJODIA & CO.
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AUDITORS' REPORT

To

The Shareholders,

Bihar State Hydroelectric Power Corporation Limited
Patna

1. We have audited the attached Balance Sheet of Bihar State Hydroelectric Power Corporation Limited as at 31st March 2011 and also the Profit & Loss Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the management. Our responsibility is to express our opinion on these financial statements based on audit conducted by us.
2. We conducted our Audit in accordance with Auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An Audit includes examining, on a test basis, evidence supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation, we believe that our audit provides reasonable basis for our opinion.
3. As required by the Companies (Auditors' Report) Order, 2003 issued by the Government of India in term's of Section 227(4A) of the Companies Act, 1956, and on the basis of such checks of the books and records of the Company as we considered appropriate and according to the information and explanations given to us, we annex hereto a statement on the matter specified in paragraphs 4 & 5 of the said order, to the extent applicable to the Company.
4. Further to our comments in annexure referred to in paragraph 3 above and subject to our observations contained in paragraphs 6 to 20 to follow and consequent impact thereof on the Loss, assets and liabilities for the items quantified in para no.8.1, 9.1,9.2,9.3,9.4, 10.2,10.4,10.5,10.6,10.7,10.8,10.9, 11,12,13,14.1,14.4, 15,16 and 17 and our inability to quantify the impact of Loss, assets and liabilities in the other paras in the absence of proper information/ explanation and record at the end of the Company as stated in appropriate part of those paragraphs, we report that:
 - 4.1. We have obtained all the information and explanations, except stated in paragraph 6 to 20 in this report, which to the best of our knowledge and belief were necessary for the purpose of our audit.
 - 4.2. Subject to para No. 6 below, in our opinion, proper books of account, as required by law, have been kept by the Company so far as, appears from our examination of those books.
 - 4.3. The said Balance Sheet and Profit & Loss Account are in agreement with the books of account.
 - 4.4. In our opinion, the Balance Sheet and Profit & Loss Account have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 to the extent as applicable at the Company level and except as stated elsewhere and in Schedule '17' (Significant Accounting Policies and Notes on Accounts).
 - 4.5. As explained to us, as per Notification No. GSR 829(E) issued by Department of Company Affairs the provisions of Section 274(1)(g) of the Companies Act, 1956 are not applicable to a Government Company.
 - 4.6. Considering the deviations including errors and omissions reported in para 6 to 20 of this report, in our opinion and to the best of our information and according to the explanations given to us, the said accounts give the information required by the Companies Act, 1956 in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India:
 - (a) In the case of the Balance Sheet, of the State of affairs of the Company as on 31st March, 2011 and
 - (b) In the case of Profit & Loss Account, of the Loss of the Company for the year ended on that date.



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5. We have been informed that the Annual Accounts for the year ended 31 st March, 2003 and onwards have not been adopted by the Corporation in the Annual General Meeting (last being adopted on for the Financial Year 2001-02). However, in view of instructions issued by the Comptroller and Auditor General of India vide circular No. 36-CA II / Co-Ordn / Actionable items of 2008-09/07-2009 dated 27.01.2009 the audit report is being released without previous year accounts being adopted in the Annual General Meeting of the Company.
6. Books of accounts related to 5 units of Jharkhand (Jalimarh, Lower Ghaghri, Netarhat, Nindigarh and Sadani) and 07 New Projects (Sipha, Barbal, Dagmara, Dhaoba, Katni, Mathauli and Nirmali) were not available for our verification. Transactions at these units during the year comprise only allocation of interest, head office expenses and depreciation.

7. **Going Concern Assumption:** The Accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.

8. **Grant in Aid:**

8.1. During the year a sum of Rs. 5,03,07,500/- has been received under this head for projects making total of Rs. 20,84,08,000/- as on 31.03.2011. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.

8.2. A difference of Rs.131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were noticed. Reason and Correctness of this difference has not been explained to us.

9. **Unsecured Loan:**

9.1. During the year a sum of Rs. 4,38,98,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2011 comes to Rs. 1,80,76,22,000/- No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 23, 22,79,991/- has been provided during the year which comes to approximately 13.15% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.

9.2. During the year a sum of Rs. 24,09,38,000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2011 comes to Rs. 99,89,04,000/- . No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 6,32,69,583/- has been provided during the year which comes to approximately 8.35% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.



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9.3. The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.

9.4. Unsecured Loan does not include a sum of Rs.13.62 Crore being the outstanding interest bearing Loan (including interest) of Power Finance Corporation (PFC) which was taken at an interest rate of 16.75% per annum on 31.03.1992 and finally settled in June 2011 against which only a sum of Rs.45.31Lacs has been shown as Accrued Interest of PFC -Loan under the Head Liabilities (Schedule-10). This has resulted in understatement of Unsecured Loan to the tune of Rs. 13.62 crore, overstatement of Liabilities amounting to Rs. 45.31 Lacs and Understatement of interest and finance Charges by Rs.13.17Crore.

10. Fixed Assets:

10.1. Title deeds in respect of land were not made available to us.

10.2. Fixed Assets includes a sum of Rs. 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.

10.3. No detail of addition to fixed assets and calculation sheet or any other record was available to verify the additions to fixed assets and correctness of depreciation charged. It has been noticed that 100% depreciation on fixed assets costing not more than Rs. 5000 has not been charged. It has also been noticed that no depreciation has been charged on additions to fixed assets in some cases.

10.4. Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.

10.5. Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that it was a case of repairs and maintenance; it did not increase the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

10.6. Fixed Assets also includes a sum of Rs.12371057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the

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depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

- 10.7. Fixed Assets also includes a sum of Rs.3662283/- being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 10.8. Fixed Assets includes a sum of Rs. 5850642/- being the amount paid through Running Account bill and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 10.9. Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.

11. Capital Work in Progress:

- 11.1. Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 105,53,12,045/- and Development Expenditure including borrowing cost amounting to Rs. 226,94,45,462/-. Besides neagative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs. 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial years. Reason of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.
- 11.2. Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 1131.77Lakh which are appearing since long without any Progress. Further, it also includes which are expense incurred but it has benefited for a small time like dewatering of Pit-I (Rs. 9717966/-), dewatering a Walidad (Rs. 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation as a book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.
- 11.3. In absence of detail, amount outstanding under the head Project Report/ Preliminary Expense related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.
- 11.4. During the current year a sum of Rs. 19,78,982/- related to Head Office Expenses has been allocated to upcoming Sipha project and Rs. 8,50,04,857/- has been allocated to 7 other upcoming Projects on which Previous Year also Rs.2,39,73,480/- was allocated, where no activities were shown and it appears disproportionate compared to basis of allocation disclosed in



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accounting policy 2.12 of Schedule 17 to the accounts. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure /loss of the year with corresponding overstatement of capital expenditure.

- 11.5. Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.
- 11.6. Break-up of Development Expenditure as shown in Schedule-5.B being Rs. 19,59,75,020.45 does not tally with break-up reflected in Appendix to Schedule-5 (Rs. 19,59,95,536.45).
- 11.7. Capital-work in Progress includes a sum of Rs. 645525/- which is Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.
- 11.8. Capital Work in Progress includes a sum of Rs. 16,70,837.50 being the amount of addition made during the year in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.
- 11.9. Capital Work in Progress includes a sum of Rs.54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant. Western Sone Powerhouse Plant was Capitalised in earlier year and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.

12. Inventories:

- 12.1. It includes Rs. 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained; materials have been utilised but in absence of necessary documents it remains unadjusted.
- 12.2. Inventories includes Capital Stores amounting to Rs. 67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.
- 12.3. Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs. 67,787/-. Considering it's future usability, in our opinion these should be charged to revenue.
13. **Sundry Debtors:** Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be Properly provided and resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to



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express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors.

14. Cash & Bank Balance:

- 14.1. Confirmation related to balance of Rs. 14620/- shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620/-. Reconciliation Statement / Reason for such a huge difference was not produced before us.
- 14.2. Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years. In some cases Latest Bank Reconciliation Statement being balance tallied with Books of Accounts were not produced. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit were not recorded) are outstanding , Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.
- 14.3. Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.
- 14.4. Against Opening Balance of stamps in hand amounting to Rs. 4510/- , a sum of Rs. 1107/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs. 6110/- has been accounted but due to difference in opening balance book balance of Rs. 9513/-has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss.
- 14.5. No proper adjustment of income tax deducted at source(TDS) ,where ever deducted, was found. Non adjustment of TDS results in short adjustment of income/interest accrued.
- 14.6. Calculation sheet of interest provision was not available.
- 14.7. Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.

15. Loans & Advances:

- 15.1. Advance Recoverable in cash includes Rs. 44.57 crore advances to suppliers/contractors and Rs. 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance/ advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc, which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.



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- 15.2. Loans and Advances includes balances which are revenue in Nature, e.g. Insurance Advance Rs. 22,515/-, Advance for Advertisement Rs. 2,75,555/-, Pre-Paid Expenses Rs. 10,000/-, L.T.C Advance Rs. 56,758/-, T.A. Advance Rs. 21,46,145/-, Legal Advance Rs. 26,48,612/-, Transfer Travelling Advance Rs. 58,721/-, Consultancy Advance Rs. 44,250/-, Temporary Advance Rs. 99,68,598/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.
- 15.3. Loans and Advances includes a sum of Rs. 2,05,20,517/- towards advance to staff comprising Rs. 20,19,484/- towards Salary Advance, Rs. 74,380/- towards marriage advance, Rs. 22,21,171/- towards House Building Advance, Rs. 6,64,474/- towards Medical Advance, etc where Employee wise Proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisability of these staff advances.
- 15.4. Advances includes opening balance of Rs. 1,00,000.00 being Advance Tax Deposit, detail of which was not available and reason of non-adjustment could not be explained.
- 15.5. During the year a sum of Rs. 34,08,568/- has been accounted as income tax deducted at source interest paid by banks as against interest income of Rs. 66,57,983/-. It seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Position of refund in view of no taxable income could not be explained.
- 15.6. Advance for land acquisition amounting to Rs. 5,00,000.00 outstanding since long remains to be adjusted /recovered.
- 15.7. Loans and advances includes a sum of Rs. 42.80 lakh receivable from Energy Department Govt. Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department, we are unable to offer our comments on realisability of this amount and resulting loss.
- 15.8. Balances of Ranchi Project Office and Inter Unit current account to Rs. 3,98,884.87 outstanding since long remain to be reconciled.

16. Current Liabilities & Provisions:

- 16.1. Sundry Creditors amounting to Rs. 96.00 lakh consist of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc. under group loans and advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liabilities no longer required to be written back, we are unable to comment on it's impact on the loss and profit accounts. Also it includes debit balances amounting to Rs. 368.24 Lakh resulting into understatement of Current Liabilities as well as Loans and advances.
- 16.2. Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.



Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation
Some Bhawan, Patna

LARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

16.3. Liability includes a sum of Rs. 1,73,378/- (Debit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,372/- which is the amount of Gratuity Paid to the employee against which amount was not received from L.I.C and which should have been charged to revenue. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by Rs. 277312/-.

16.4. Current Liabilities includes a sum of Rs. 4,68,209/- (including Rs. 83,217/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.

17. Profit & Loss Account:

17.1. In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be ensured.

17.2. Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.

17.3. Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.

18. Deviation from Accounting Standards:

The Company has not followed the following applicable Accounting Standards issued by the Institute of Chartered Accountants of India in Preparation of Financial Statements: Accounting Standard-1 to the extent stated in Note 2.2 of Schedule-17 to the Accounts, Accounting Standard-2 related to Valuation of Inventories, Accounting Standard-3 related to Cash Flow Statement, Accounting Standard -4 related to Contingencies and Events occurring after Balance Sheet Date, Accounting Standard-10 related to Accounting for Fixed Assets, Accounting Standard -12 related to Accounting for Government Grants, Accounting Standard -15 related to Employee Benefits, Accounting Standard-17 related to Segment Reporting, Accounting Standard-17 related to Related Party Disclosures, Accounting Standard-28 related to Impairment of Assets and Accounting Standard-29 related to Provisions, Contingent Liabilities and Contingent Assets.

19. Disclosures:

19.1. The Company has not separately disclosed additional informations in the Financial Statements as required by Notification No. GSR 494(E) dated 30 th October, 1973 related to Sales, Employee Remuneration, Export Turnover, and other non monetary disclosures.

19.2. The management has not furnished the following information although required to be disclosed by way of a note to the accounts:

Claims against the Company not acknowledged as debt.

Estimated amount of contracts remaining to be executed on capital account and not provided for.

19.3. Particulars of Advances: As required by Schedule VI Part II of The Companies Act, 1956, the Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.

20. As explained Kosi Kataiya unit has been taken over by the company in earlier year but adjustment of



Chief Engineer (E)
Bihar State Hydro
Power Corporation
G. M. Patna

SALARPURIA JAJODIA & CO.
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assets and liabilities including amount payable to transferer related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.

21. Observations made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.

PATNA
The 31st day of October, 2019
UDIN:19012525AAAABT8628

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)


(CA H.K.P. Jain)
PARTNER
M.No.012525


Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

ANNEXURE TO THE AUDITORS' REPORT ON THE ACCOUNTS FOR THE YEAR ENDED 31ST MARCH, 201
(Referred to in paragraph '3' of our report of even date)

1. In respect of its fixed assets:
 - a. The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.
 - b. As explained the fixed assets have not been physically verified by the management during the year.
 - c. No substantial part of fixed assets has been disposed off during the year affecting the going concern status of the company.
2. In respect of its inventories :
 - a. The Inventories have not been physically verified during the year by the management. Clause (b) and (c) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.
- 3.a. As explained to us, the Company has not granted any Loan to Companies, Firms or other Companies listed in the registers maintained under section 301 and to the Companies under the same management. As such clause b, c and d are not applicable for the Company. However, Register maintained under section 301 was not shown to us.
- 3.b. As explained to us, the Company has not taken any loan from the Companies firms or other parties listed in the Registers maintained under section 301. As such clause f and g are not applicable for the Company. However, Register maintained under section 301 was not shown to us.
4. On the basis of checks carried out during the course of audit and according to the information and explanations given to us, there are adequate internal control procedure commensurate with the size of the company and the nature of its business with regard to purchases of inventory and fixed assets and with regard to the sale of goods and services. During the course of our audit, we have not observed any continuing failure to correct major weaknesses in internal control.
- 5.a. As register maintained under section 301 of the Companies Act, 1956. was not available we are unable to state whether particulars of contracts or arrangements referred to in section 301 of the Companies Act, 1956 have been entered in the register required to be maintained under that section.
- 5.b. For the reason stated in sub-paragraph (a) above we are unable to state whether transactions made in pursuance of contracts or arrangements entered in the register maintained under section 301 of the Companies Act, 1956 have been made at prices which are reasonable having regard to prevailing market prices.
6. The Company has not accepted deposits from the public within the meaning of Section 58A and 58 AA or any other relevant provisions of the Companies Act, 1956 and the rules framed there under.
7. The company has engaged a firm of Chartered Accountants to get annual account prepared and signed with report thereon. Internal audit should be carried out throughout the financial year requiring periodical reporting to enable the management to take corrective measure in time where ever required.



Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.

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- Matter related to maintenance of cost records is not applicable to this company in view of the nature of business.
9. (a) In absence of relevant returns and records it is not possible to comment upon regular deposits of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2011 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of Investor Education and Protection Fund, Custom Duty, Excise Duty and Cess in view of its nature of business.
- (b) For the reason stated in sub-para (9)(a) above, it is also not possible to mention the statutory dues of Sales Tax/ Income Tax/ Custom Duty/ Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.
10. The Accumulated loss of the Company as on 31st March, 2011 exceeds 50% of its net worth. The company has incurred cash losses during the current financial year covered by our audit and also in the immediate preceding financial year.
11. Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.
12. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities.
13. In our opinion, the Company is not a chit fund or a Nidhi / Mutual benefit fund/society. Therefore, clause 4(xiii) of the Companies (Auditor's Report) Order, 2003 is not applicable to the Company.
14. In our opinion and according to the information and explanations given to us, the Company is not a dealer or trader in shares, securities and debentures and there is no investment by the company.
15. In our opinion and according to the information and explanations given to us, the Company has not given guarantees for loans taken by others from Banks or financial institutions.
16. The Company As explained, the term loan received from Government of Bihar has been applied for the purpose for which they were obtained.
17. According to the information and explanations given to us and on an overall examination of the balance sheet of the company, we state that the no funds raised on short-term basis have been used for long term investment.
18. During the year the Company has not made any preferential allotment of shares to parties and companies covered in the register maintained under Section 301 of the Companies Act, 1956.
19. The Company has not issued any debentures.
20. The Company has not raised any money during the year by public issue.



Chief Engineer (Electrical)
Bihar State Hydroelectricity
Power Corporation Ltd.
Bhagalpur, Bihar

SALARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

21. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.

PATNA
The 31st day of October, 2019

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)

(CA H.K.P. Jain)
PARTNER
M.No.012525

Bihar State Chartered Accountants
Patna



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2011

PARTICULARS	Schedule	As at 31.03.2011	As at 31.03.2010
		₹	₹
<u>SOURCES OF FUNDS</u>			
<u>Shareholders' Funds</u>			
Capital	1	99,04,00,000.00	99,04,00,000.00
<u>Government Grants</u>	2	20,84,08,000.00	15,81,00,500.00
<u>Loan Funds</u>	3		
Unsecured Loans		5,76,00,28,688.22	5,17,96,63,630.22
		6,95,88,36,688.22	6,32,81,64,130.22
<u>APPLICATION OF FUNDS</u>			
<u>Fixed Assets</u>	4		
Gross Block		2,07,03,51,813.01	2,02,64,83,000.33
Less : Depreciation		73,35,48,367.15	66,68,93,824.65
Net Block		1,33,68,03,445.86	1,35,95,89,175.68
Capital work-in-progress	5	3,32,47,57,507.11	2,80,59,95,502.86
<u>Current Assets, Loans & Advances</u>			
Inventories	6	1,25,24,020.30	17,61,00,375.70
Sundry Debtors	7	17,57,09,927.00	20,47,13,265.00
Cash & Bank Balances	8	57,18,40,986.47	57,98,61,446.19
Loans & Advances	9	53,91,05,201.86	45,27,21,756.20
		1,29,91,80,135.63	1,41,33,96,843.09
<u>Less : Current Liabilities and Provisions</u>			
Liabilities	10	9,08,37,263.14	9,43,81,200.02
Provisions		9,08,37,263.14	9,43,81,200.02
Net Current Assets		1,20,83,42,872.49	1,31,90,15,643.07
<u>Profit and Loss Account</u>			
As per accounts annexed		1,08,89,32,862.76	84,35,63,808.61
<u>Significant Accounting Policies and Notes on Accounts :</u>	17	6,95,88,36,688.22	6,32,81,64,130.22

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

Al
(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

[Signature]
(CA H.K.R. Jain)
MRN 012525
(Partner)



Place: Patna
The 31st day of October, 2019

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna
PROFIT & LOSS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2011.

PARTICULARS	Schedule	Current Year	Previous Year
		₹	₹
INCOME			
Sales	11	6,59,96,662.00	6,78,55,187.00
Other Income	12	2,94,51,665.72	3,05,49,017.74
		<u>9,54,48,327.72</u>	<u>9,84,04,204.74</u>
EXPENDITURE			
Operation and Maintenance of Power House	13	2,49,65,652.00	2,16,20,647.00
Repairs and Maintenance of Power House		1,22,07,907.00	72,76,879.00
Administrative and Management Expenses	14	7,15,68,211.50	5,84,57,060.07
Interest & Finance charges	15	16,62,60,261.00	15,91,79,185.50
Depreciation	16	6,58,15,350.37	7,33,31,649.31
		<u>34,08,17,381.87</u>	<u>31,98,65,420.88</u>
Loss for the year before tax		(24,53,69,054.15)	(22,14,61,216.14)
Provision for Income Tax		-	(3,526.00)
Fringe Benefit Tax		(24,53,69,054.15)	(22,14,57,690.14)
Loss for the year after Tax		<u>(84,35,63,808.61)</u>	<u>(62,21,06,118.47)</u>
Loss brought forward		<u>(1,08,89,32,862.76)</u>	<u>(84,35,63,808.61)</u>
Loss carried to Balance Sheet			
Earning Per Share:			
Basic & Diluted (Nominal value per share ₹ 1000/-)		(247.75)	(223.60)
Weighted Average Number of Equity Shares (Basic & Diluted)		9,90,400	9,90,400

Significant Accounting Policies and Notes on Accounts :

Khushboo
(Khushboo)
Company Secretary

17
[Signature]
Director

Al
(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

(CA H.K.P. Jain)
MRN 012525
(Partner)

Place: Patna
The 31st day of October, 2019



[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Schedules annexed to and forming parts of account
for the year ended 31st March, 2011

Particulars	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE : 10		
<u>Liabilities</u>		
Sundry Creditors	96,00,295.91	94,46,046.91
Liabilities for expenses	1,34,55,856.23	1,51,74,656.91
Other Liabilities	31,96,624.48	1,02,65,594.48
Income Tax deducted at source	(2,44,753.41)	3,77,881.59
Security Deposits	3,62,01,639.88	3,36,55,629.88
Deductions from Contractors	2,38,12,567.77	2,14,29,624.97
Royalty	1,97,877.75	(5,70,370.25)
Sales Tax	(1,07,13,551.07)	(96,81,482.07)
VAT	2,91,953.00	1,23,059.00
Service Tax	20,600.00	(1,53,600.00)
Grant in Aid	(13,92,198.00)	(13,92,198.00)
Irrigation Department	1,15,00,000.00	1,15,00,000.00
Interest accrued - PFC Loan	45,31,253.00	45,31,253.00
Group Gratuity Payable	(1,73,378.00)	(2,77,372.00)
Suspense	(47,524.40)	(47,524.40)
TOTAL	9,08,37,263.14	9,43,81,200.02

SCHEDULE : 11

Sales

Sale of Electricity

TOTAL

6,59,96,662.00

6,78,55,187.00

6,59,96,662.00

6,78,55,187.00

SCHEDULE : 12

Other Income

Interest - Fixed Deposits

Interest - Other

Interest - House Building Advance

Interest - Marriage Advance

Interest - Motor Cycle Advance

Recovery of Electricity

House Rent

Insurance Claim

Recovery of Materials

Sale of Tender Paper

Miscellaneous Income

TOTAL

2,75,57,982.72

2,69,46,260.74

7,16,885.00

1,41,726.00

3,98,944.00

2,42,682.00

852.00

9,158.00

52,088.00

52,847.00

38,744.00

41,259.00

1,69,943.00

1,25,604.00

-

5,656.00

-

14,00,000.00

3,70,400.00

15,70,400.00

1,46,327.00

13,425.00

2,94,51,665.72

3,05,49,017.74

SCHEDULE : 13

Operation and Maintenance of Power House

Operation and Maintenance

TOTAL

2,49,65,652.00

2,16,20,647.00

2,49,65,652.00

2,16,20,647.00

Khushhw
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account for the year ended 31st March, 2011.

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 1		
Share Capital		
Authorised		
10,00,000 Equity share of Rs. 1000/- each	1,00,00,00,000.00	1,00,00,00,000.00
(P.Y 10,00,000 Equity share of Rs. 1000/- each)		
Issued,Subscribed and Paid-up		
9,90,400 (P.Y. 9,90,400) Equity share of Rs. 1000/- each		
fully paid-up in cash	99,04,00,000.00	99,04,00,000.00
TOTAL	99,04,00,000.00	99,04,00,000.00
SCHEDULE : 2		
Government Grants		
Capital Subsidy		
As per last account	15,81,00,500.00	13,40,38,000.00
Addition during the year	5,03,07,500.00	2,40,62,500.00
TOTAL	20,84,08,000.00	15,81,00,500.00
SCHEDULE : 3		
Unsecured Loans		
Other Loan		
From Government of Bihar		
Principal	1,80,76,22,000.00	1,76,37,24,000.00
Interest accrued	2,74,82,33,134.22	2,51,59,57,699.22
	4,55,58,55,134.22	4,27,96,81,699.22
From Government of Bihar under RIDF (NABARD) Scheme		
Principal	99,89,04,000.00	75,79,66,000.00
Interest accrued	20,52,69,554.00	14,20,15,931.00
	1,20,41,73,554.00	89,99,81,931.00
TOTAL	5,76,00,28,688.22	5,17,96,63,630.22

Notes :

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2011.

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
4 During the year 2009-10. loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
5 During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
6 During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

FIXED ASSETS

SCHEDULE-4

Sl. No.	PARTICULARS	GROSS BLOCK				DEPRECIATION				NET BLOCK	
		As at 01.04.2010	Addition during the year	Sales/ Adj.	As at 31.03.2011	As at 31.03.2010	Depreciation for the Year	Sales/ Adj.	As at 31.03.2011	As at 31.03.2011	As at 31.03.2010
		₹	₹	₹	₹	₹	₹	₹	₹	₹	₹
1	Land - Freehold	2,03,83,606.53	-	-	2,03,83,606.53	-	-	-	-	2,03,83,606.53	2,03,83,606.53
2	Land - Leasehold	1,85,800.00	-	-	1,85,800.00	-	-	-	-	1,85,800.00	1,85,800.00
3	Buildings - Residential	1,83,03,457.67	-	-	1,83,03,457.67	42,60,026.82	2,98,347.00	-	45,58,373.82	1,37,45,083.85	1,40,43,430.89
4	Buildings - Non Residential	1,25,47,300.09	29,50,000.00	-	1,54,97,300.09	57,84,824.13	4,68,019.00	-	62,52,843.13	92,44,456.96	67,62,475.96
5	Buildings - Sheds	7,29,825.55	-	-	7,29,825.55	7,29,825.55	-	-	7,29,825.55	-	-
6	Roads & Bridges	4,36,71,017.07	-	-	4,36,71,017.07	1,90,69,810.73	13,18,865.00	-	2,03,88,675.73	2,32,62,341.34	2,46,01,206.34
7	Water Supply Installation	1,90,280.36	-	-	1,90,280.36	98,487.44	6,469.00	-	1,04,956.44	85,323.92	91,792.92
8	Electric Installation	15,89,76,200.56	1,01,51,357.14	-	16,91,27,557.70	15,48,45,637.63	26,54,224.51	-	15,74,99,862.14	1,16,27,695.56	41,30,562.91
9	Plant & Machinery	82,96,37,694.12	2,30,53,238.84	-	85,26,90,932.96	23,28,06,645.31	2,95,82,043.51	-	26,23,88,688.82	59,03,02,244.14	59,68,31,048.81
10	Power House	90,40,10,077.96	68,53,325.00	-	91,08,63,402.96	22,47,09,701.26	3,09,69,355.00	-	25,56,79,056.26	65,51,84,346.70	67,93,00,376.70
11	Furniture & Fixtures	31,36,438.11	1,29,422.00	-	32,65,860.11	19,60,691.31	1,66,817.00	-	21,27,508.31	11,38,351.80	11,75,746.80
12	Office Equipments	55,16,550.59	6,49,344.00	-	61,65,894.59	23,20,598.78	2,79,223.13	-	25,99,821.91	35,66,072.68	31,95,911.81
13	Other Equipments	2,29,31,864.94	-	-	2,29,31,864.94	1,65,87,072.71	5,59,099.00	-	1,71,46,171.71	57,85,693.23	63,44,792.23
14	SPBX Machine	4,22,050.00	-	-	4,22,050.00	1,73,725.65	20,047.00	-	1,93,772.65	2,78,777.35	2,48,524.35
15	Books	3,40,620.76	20,777.70	-	3,61,398.46	1,21,186.82	16,031.00	-	1,37,217.82	2,24,180.64	2,19,813.94
16	Vehicles	39,45,504.46	-	-	39,45,504.46	21,12,251.60	1,74,146.00	-	22,86,397.60	16,59,106.86	18,33,212.86
17	Bicycles	11,223.14	-	-	11,223.14	9,841.39	742.00	-	10,583.39	639.75	1,811.75
18	Computers	14,41,242.52	61,348.00	-	15,02,590.52	12,66,644.70	1,36,805.35	-	14,03,470.05	99,120.47	1,74,577.82
19	Other Assets	1,02,245.90	-	-	1,02,245.90	36,832.82	4,309.00	-	41,141.82	61,104.08	654.308
	Total:-	2,02,64,83,000.33	4,38,68,812.68	-	2,07,03,51,813.01	66,68,93,824.65	6,66,54,542.50	-	73,35,48,367.15	1,33,68,03,445.86	1,35,95,89,175.68
	Previous Year:-	1,71,56,10,504.31	31,08,72,496.02	-	2,02,64,83,000.33	59,26,18,393.12	7,42,75,431.53	-	66,68,93,824.65	1,35,95,89,175.68	

Khushhu
Company Secretary
Bihar State Hydro-Electric
Power Corp. Ltd.
PATNA

Dir. Dir
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Key
Chief Engineer (Elec.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



ASSETS UNDER CONSTRUCTION/INSTALLATION

Assets under construction/installation

Sl. No.	PARTICULARS	As at 01.04.2010	Addition during the year	Deduction during the year	As at 31.03.2011
		₹	₹	₹	₹
1	Building	76,51,514.24	0.00	0.00	76,51,514.24
2	Generating Equipments	8,19,83,802.03	4,19,82,759.86	0.00	12,39,66,561.89
3	Power House	13,76,44,309.61	16,70,837.50	0.00	13,93,15,147.11
4	Transformer (Sub-Station Equipments)	42,93,693.31	9,42,902.42	0.00	52,36,595.73
5	Auxiliary & Ancillary Equipments	4,09,542.00	0.00	0.00	4,09,542.00
6	Road & Bridges	90,67,794.41	0.00	0.00	90,67,794.41
7	Water Supply Installation	11,64,233.42	0.00	0.00	11,64,233.42
8	Intake Gates	58,12,325.74	0.00	0.00	58,12,325.74
9	Generating Set	1,14,594.24	0.00	0.00	1,14,594.24
10	Expenses on Investigation	5,52,005.05	0.00	0.00	5,52,005.05
11	Power/Esc. Channel	3,58,07,624.13	17,16,426.00	0.00	3,75,24,050.13
12	Excavation Work-in-Progress	2,43,680.00	0.00	0.00	2,43,680.00
13	Transmission System	84,47,033.18	28,97,694.00	13,28,577.09	1,00,16,050.09
14	Fencing Wall	22,724.00	0.00	0.00	22,724.00
15	Rock Excavation Allow Pen Stock	58,89,944.20	0.00	0.00	58,89,944.20
16	Tail & Tunnel	1,49,61,039.70	23,32,075.00	0.00	1,72,93,114.70
17	Fabrication Erection	2,46,92,507.00	9,54,706.00	0.00	2,56,47,213.00
19	Construction of Pen Stock	5,87,542.00	0.00	0.00	5,87,542.00
20	Plantation	54,978.00	0.00	0.00	54,978.00
23	Micro Hyde Set	8,14,029.00	0.00	0.00	8,14,029.00
24	Dewatering of Pit	97,17,966.00	0.00	0.00	97,17,966.00
25	Construction of Store & Godown	7,30,116.00	0.00	0.00	7,30,116.00
26	Power House(Amethi)	2,25,54,409.45	0.00	0.00	2,25,54,409.45
27	Power House (Arwal)	4,29,32,366.00	28,27,615.00	0.00	4,55,59,981.00
28	Power House(Belsar)	3,39,97,451.00	23,50,634.00	0.00	3,63,48,085.00
29	Power House(Jalim)	1,93,06,480.00	0.00	0.00	1,93,06,480.00
30	Plant & Machinery (Rajapur)	-	30,14,184.00	0.00	30,14,184.00
31	Power House (LGP)	1,42,40,389.43	0.00	0.00	1,42,40,389.43
32	Power House(Rampur)	1,41,62,608.73	0.00	0.00	1,41,62,608.73
33	Power house (Natwar)	65,30,390.00	58,67,837.00	0.00	1,23,98,227.00
34	Power House (Nindi)	8,52,489.00	0.00	0.00	8,52,489.00
35	Power House (Paharma)	1,46,81,995.00	94,58,794.00	0.00	2,41,40,789.00
36	Power House (Rajapur)	3,65,21,702.00	30,73,789.00	0.00	3,95,95,491.00
37	Power House (SDP)	2,32,60,103.66	0.00	0.00	2,32,60,103.66
38	Eot Crane (Natwar)	-	14,26,000.00	0.00	14,26,000.00
39	Power House (Dehra)	-	24,10,441.00	0.00	24,10,441.00
40	Power House (TB)	10,86,354.00	0.00	0.00	10,86,354.00
41	Power House (Tejpora)	4,55,81,237.00	1,30,16,539.00	0.00	5,85,97,776.00
42	Power House(Walidadi)	1,06,91,826.00	1,30,61,684.00	0.00	2,37,53,510.00
43	Land - Triveni	(10,19,922.00)	0.00	0.00	(10,19,922.00)
44	Land Acquisition	-	43,78,205.00	0.00	43,78,205.00
45	Land - Sadani	12,70,800.00	0.00	0.00	12,70,800.00
46	Construction of E/M Arwal	38,93,742.00	44,14,833.40	0.00	83,08,575.40
47	Construction of E/M Amethi	1,22,86,325.00	94,60,699.28	0.00	2,17,47,024.28
48	Construction of E/M Belsar	2,09,65,425.00	10,03,550.32	0.00	2,19,68,975.32
49	Construction of E/M Jainagra	(1,03,73,276.00)	0.00	0.00	(1,03,73,276.00)
50	Construction of E/M Natwar	21,71,125.00	64,411.92	0.00	22,35,536.92
51	Construction of E/M Paharma	80,23,775.00	35,27,996.00	0.00	1,15,51,771.00
52	Construction of E/M Rajapur	3,73,12,941.00	20,44,683.60	0.00	3,93,57,624.60
53	Construction of E/M Rampur	1,11,32,726.00	0.00	0.00	1,11,32,726.00
54	Construction of E/M (Chandil)	0.00	7,58,49,673.58	0.00	7,58,49,673.58
55	Construction of E/M (North Koel)	0.00	8,34,12,950.45	0.00	8,34,12,950.45
56	Construction of E/M (Tejpora)	1,98,75,798.00	34,31,424.84	0.00	2,33,07,222.84
57	Construction of Electric Equipment (Walidadi)	1,47,12,301.00	1,03,266.72	0.00	1,48,15,567.72
58	Designing & Drawing	4,65,500.00	0.00	0.00	4,65,500.00
59	switchyard(Arwal)	0.00	1,97,600.00	0.00	1,97,600.00
60	switchyard(Belsar)	0.00	40,014.00	0.00	40,014.00
61	switchyard(pharma)	0.00	2,56,500.00	0.00	2,56,500.00
62	switchyard(Tejpora)	0.00	18,69,937.00	0.00	18,69,937.00
	Total A	75,77,80,058.53	29,68,60,663.89	13,28,677.09	1,05,53,12,045.33
	Previous Year	89,12,45,745.44	6,57,89,003.09	19,92,54,690.00	75,77,80,058.53

Khushboo
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.

PATNA

Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna



Development Expenditure	As at 01.04.2010	Addition during the year	Deduction during the year	As at 31.03.2011
PARTICULARS	₹	₹	₹	₹
Report Survey & Consultancy Charges	1,64,77,053.46	0.00	0.00	1,64,77,053.46
Preliminary Expenses - Projects	4,69,67,234.82	2,00,12,567.00	2,02,606.00	6,67,77,195.82
Project Expenses	5,03,516.00	0.00	0.00	5,03,516.00
Development Expenditure as per last account	63,27,03,539.38	0.00	0.00	63,27,03,539.38
Development Expenditure (Detail of addition given below)				
Barh	1,07,06,434.70	36,48,328.00	0.00	1,43,54,762.70
Barwa	1,19,56,671.79	34,07,364.00	0.00	1,53,64,035.79
Bal	2,59,998.00	37,22,631.00	0.00	39,82,629.00
Bathina	13,01,254.00	3,50,96,589.00	0.00	3,63,97,843.00
Bolsar	1,95,56,771.56	62,51,084.00	0.00	2,58,07,855.56
Chandil	36,67,84,620.92	3,87,06,307.60	0.00	40,54,90,928.52
Degma	2,04,93,793.73	3,33,58,490.62	0.00	5,38,52,284.35
Deba	3,24,998.00	42,01,620.00	0.00	45,26,618.00
Sipha	-	19,78,982.00	0.00	19,78,982.00
Indra	1,47,27,653.89	13,32,500.00	0.00	1,60,60,153.89
Indra	3,24,998.00	46,85,850.00	0.00	50,10,848.00
Lower Chhara	93,59,950.47	7,21,320.00	0.00	1,00,81,270.47
Lower Chhara	1,29,999.00	23,41,847.00	0.00	24,71,846.00
Mandal (North koel)	65,48,61,394.32	1,74,34,237.98	0.00	67,22,95,632.30
Mandal	49,54,656.00	28,11,942.00	0.00	77,66,598.00
Mandal	12,15,201.68	79,196.00	0.00	12,94,397.68
Nindiga	1,47,29,227.47	13,32,500.00	0.00	1,60,61,727.47
Nindiga	11,38,439.00	15,97,829.00	0.00	27,36,268.00
Pharma	1,95,58,896.53	62,69,009.00	0.00	2,58,27,905.53
Pur	1,37,27,419.73	36,78,139.00	0.00	1,74,05,558.73
Rampur	63,55,821.43	22,98,610.00	0.00	86,54,431.43
Sadani	2,14,17,705.00	18,03,533.00	0.00	2,32,21,238.00
Sadani	-	21,24,481.00	0.00	21,24,481.00
Sone Eastern	24,23,286.91	0.00	0.00	24,23,286.91
Sone Eastern	3,06,97,586.65	82,52,108.00	0.00	3,89,49,694.65
Tenu	6,31,53,796.50	46,88,481.25	0.00	6,78,42,277.75
Wahid	1,33,10,445.73	41,52,041.00	0.00	1,74,62,486.73
Wahid	1,30,34,71,021.01	19,59,75,020.45	0.00	1,49,94,46,041.46
Interest on Loan - Bihar Government	1,83,63,881.13	0.00	0.00	1,83,63,881.13
Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00	0.00	37,577.00
Interest on Loan - NABARD	2,68,94,138.00	0.00	0.00	2,68,94,138.00
Transfer from Head Office	27,97,453.53	0.00	0.00	27,97,453.53
Capital Maintenance of PH (SW)	-	54,45,036.00	0.00	54,45,036.00
Total B	2,04,82,15,444.33	22,14,32,623.45	2,02,606.00	2,26,94,45,461.78
Previous Year	1,96,12,21,258.36	14,54,93,398.71	5,84,99,212.74	2,04,82,15,444.33
Grand Total (A+B)	2,80,59,95,502.86	52,02,93,287.34	15,31,283.09	3,32,47,57,507.11
Previous Year	2,85,24,67,003.80	21,12,82,401.80	25,77,53,902.74	2,80,59,95,502.86

K. K. Shukla
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

Manager
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

	20010-11	2009-10
1 INCOME		
Interest on FD		
Sale of Tender Paper/BOQ		37,020.00
Interest on Motorcycle Adv	0.00	0.00
Recovery of Electricity	0.00	0.00
Recovery of House Rent	0.00	0.00
Adv. On Marriage advance	0.00	0.00
Recovery of Penalty	580.00	0.00
Misc Income	1,25,000.00	0.00
Total 1	1,25,580.00	43,020.00
2 EXPENDITURE		
Salary & Allowance		
Uniform & Livenes	97,16,717.85	66,86,672.00
Medical Expense	0.00	10,594.00
Survey & Investigation	0.00	4,284.00
Rent	0.00	0.00
Travelling & Conveyance	80,700.00	85,200.00
Telephone & Telex Charges	2,01,781.00	2,60,878.00
Printing & Stationary	67,079.00	60,917.00
Postage	19,019.00	33,856.00
Petrol, Oil & Lubricants	2,367.00	2,401.00
Electricity Charges	2,07,781.50	2,00,362.60
Bank Commission	10,00,000.00	
Repairs & Maintenance	1,897.00	6,238.50
Transportation/Frieght & Carriage Charges	2,91,870.00	3,86,252.00
Insurance	16,000.00	20,050.00
Hire Charges of Vechile	2,62,502.00	3,27,059.00
Preparation of E-TDS	9,16,296.00	3,43,888.00
Consultancy/Legal Expenses	8,770.00	8,500.00
Entertainment	2,050.00	4,57,860.00
Interest on Government of Bihar Loan	43,998.00	81,510.00
Interest on Government of Bihar Loan -RIDF (NABARD)	8,34,69,110.00	5,88,57,214.00
Testing	4,58,20,203.00	1,96,39,522.50
Newspaper	44,120.00	0.00
Rates & Taxes	0.00	1,160.00
Miscellaneous Expenses	0.00	9,000.00
Administrative & Management Expenses (HO) - Allocated	1,79,361.35	72,504.00
Salary Allocated - Other Projects	4,96,61,527.62	3,97,29,171.89
Depreciation	31,88,774.00	27,48,903.00
	8,39,192.33	9,43,782.22
Total 2	19,64,21,116.45	13,09,76,779.71
NET (2-1)	19,59,95,536.45	13,09,33,759.71

Khushho
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

OP1
Director
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

AL
Managing Director
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

MY
Chief Engineer (Elec)
Bihar State Hydro Electric
Power Corporation Ltd.
Sone Bihar, Patna-1

Schedules annexed to and forming parts of account
for the year ended 31st March, 2011.

Particulars	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE : 6		
<u>Inventories</u>		
Capital Stores	67,78,250.80	15,08,15,959.38
Materials issued to contractors	53,44,397.56	2,49,08,728.93
Stationery Items	5,09,689.15	2,84,004.60
Exide Battery	23,895.68	23,895.68
Stock Suspense	67,787.11	67,787.11
TOTAL	1,25,24,020.30	17,61,00,375.70
SCHEDULE : 7		
<u>Sundry Debtors</u>		
(Unsecured; considered good)		
Debts outstanding for a period exceeding six months	14,59,57,440.00	17,62,98,150.00
Other debts	2,97,52,487.00	2,84,15,115.00
TOTAL	17,57,09,927.00	20,47,13,265.00
SCHEDULE : 8		
<u>Cash and Bank Balances</u>		
Balance with Scheduled Banks in Current Account	11,48,66,577.65	3,59,12,587.32
Short Term deposits with bank	45,67,00,000.00	24,19,50,000.00
PL Account with SBI Secretariat Branch	14,620.00	14,620.00
Cash on hand	2,50,275.82	3,83,728.87
Cheques in hand	-	30,15,96,000.00
Stamps in hand	9,513.00	4,510.00
TOTAL	57,18,40,986.47	57,98,61,446.19
SCHEDULE : 9		
<u>Loans and Advances</u>		
(Unsecured, considered good)		
Advances receivable in cash or in kind	46,62,39,043.63	40,02,20,659.10
Advance - Tax Deposit	1,33,10,220.96	99,01,652.96
Recoverables	17,65,524.17	15,77,067.17
Prepaid Expenses - Insurance	10,000.00	10,000.00
Receivables- Energy Dept. Govt of Bihar	42,79,857.00	41,40,967.10
Interest Accrued on Fixed Deposits	5,25,79,671.23	3,59,50,525.00
Security Deposit - BSEB (TB)	12,000.00	12,000.00
Security Deposit - (Telephone)	10,000.00	10,000.00
Advance for land aquisition	5,00,000.00	5,00,000.00
Ranchi Project Office	2,38,066.00	2,38,066.00
Inter Unit Current Account	1,60,818.87	1,60,818.87
TOTAL	53,91,05,201.86	45,27,21,756.20

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corporation
PATNA



He
Bihar State Hydro Electric
Power Corporation
PATNA

**Schedules annexed to and forming parts of accounts
for the year ended 31st March, 2011.**

Particulars	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE - 14		
Administrative and Management Expenses		
Managing Director's Remuneration	7,21,161.00	14,46,948.00
Salary & Allowance	7,48,04,011.75	5,89,73,970.00
Gratuity Premium under L.I.C. Scheme	74,61,044.00	19,44,681.00
DLI and P.F. Administrative charges	6,51,487.00	2,46,155.00
Uniform and Liveries	1,21,131.00	44,418.50
Reimbursement of Medical & Educational Expenses	8,73,598.00	6,36,145.00
Account Computerisation	5,95,986.00	4,21,307.00
Rent	16,37,732.00	15,11,448.00
Electricity	17,21,284.00	13,68,983.00
Travelling & Conveyance	32,49,458.80	20,25,903.00
Petrol, Oil & Lubricants	15,91,691.87	29,38,407.48
Insurance	63,631.00	-
Advertisement	39,52,953.00	43,28,190.00
Telephone & Telex Charges	8,66,356.57	7,76,103.61
Internet Expenses	3,800.00	23,779.00
Printing & Stationary	10,55,321.45	10,32,862.90
Postage	79,521.00	1,39,508.10
Conference and Seminar	-	2,76,733.00
Bank Charges	10,907.00	79,840.50
Repairs - Vehicles	2,16,855.40	1,81,209.00
Repairs - Building	18,70,346.00	28,63,053.75
Repairs - Plant	3,61,404.00	5,03,358.00
Repairs - Other	46,53,391.08	11,32,276.00
Hire & Rental Charges	41,41,189.00	37,33,870.00
Licence & Registration Fee	50,500.00	1,44,500.00
Consultancy/Legal & Professional fees	1,02,83,284.00	92,66,406.00
D.P.R Expenses	7,93,340.00	2,86,191.00
Statutory Auditors Fee	38,605.00	38,605.00
Internal Auditors Fee	88,792.00	22,612.00
Tax Audit Fees	22,000.00	24,266.00
Entertainment	12,82,350.50	9,06,672.62
Survey & Investigation	33,164.00	-
News Paper	13,472.00	24,475.00
Transportation Charges	91,953.00	58,375.00
Grant for Purchase of Computer	16,446.00	20,791.00
Donation & Subscription	31,500.00	18,20,249.00
Plantation	88,915.00	21,750.00
Testing & Commissioning	-	9,48,978.00
Miscellaneous Expenses	8,79,930.90	7,22,114.50
Transfer to Capital Work in Progress (Schedule 5)	12,44,18,513.12	10,09,35,134.96
TOTAL	(5,28,50,301.62)	(4,24,78,074.89)
	7,15,68,211.50	5,84,57,060.07

Khushhu
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA



[Signature]
Director
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

[Signature]
Managing Director
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sonu Bihwan, Patna-1

Schedules annexed to and forming parts of account
for the year ended 31st March, 2011.

Particulars		CURRENT YEAR	PREVIOUS YEAR
		₹	₹
<u>SCHEDULE : 15</u>			
<u>Interest & Finance Charges</u>			
<u>Interest on Term Loans</u>			
Government of Bihar	23,22,79,991.00		20,84,27,885.00
Government of Bihar -RIDF (NABARD)	6,32,69,583.00		3,86,77,576.00
		29,55,49,574.00	24,71,05,461.00
Transfer to Capital Work in Progress (Schedule-5)		(12,92,89,313.00)	(8,79,26,275.50)
TOTAL		16,62,60,261.00	15,91,79,185.50

SCHEDULE : 16

Depreciation

As per Schedule 4

Transfer to Capital Work in Progress (Schedule-5)

TOTAL

6,66,54,542.50

(8,39,192.13)

6,58,15,350.37

7,42,75,431.53

(9,43,782.22)

7,33,31,649.31

Khushkh
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Managing Director
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Power Corporation Ltd.
PATNA



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

SCHEDULE : 17

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHPCL") for the year ended March 31, 2011. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 1956 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

2.1. Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to comply with the mandatory Accounting Standards referred in Section 211(3C) of the Companies Act, 1956.

2.2. Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

2.3. Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

2.4. Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.

2.5. Fixed Assets, Depreciation and Amortization:

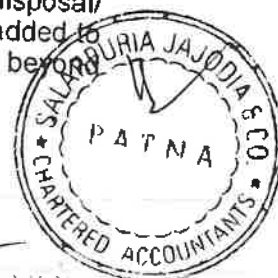
Fixed Assets:

Fixed assets are stated at cost of acquisition/construction less disposal/depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

Kushho
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Al
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Managing Director
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PATNA



Al
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

2.6 Capital Work in Progress

Capital work in progress includes:

- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production,
- ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
- iii. expenditure incurred on start-up and commissioning of the project, including expenditure incurred on test run, and
- iv. borrowing cost.

2.7 Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.

2.8 Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

Krushna
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

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Bihar State Hydro Electric
Power Corporation Ltd
PATNA

AL
Managing Director
Bihar State Hydro Electric
Power Corporation Ltd
PATNA



My
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhadrachal, Patna-1

2.9

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

2.10

Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

2.11.

Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.
- ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalinghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

2.12.

Apportionment of Head Office Expenses

- i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.



Khushbu
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.13. Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

2.14 Taxes on Income

- i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- ii. In view of uncertainty of future taxable income no deferred tax results from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006..

2.15. Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. these are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

3. Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.

4. Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

5. Bank Accounts

5.1. Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.

5.2. Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements. Balance confirmations from banks remain to be obtained.

5.3. It includes Rs. 1,78,606.15 related to balances of inoperative accounts remain to be confirmed.

6. As per Notification No. GSR 829(E) issued by Department of Company Affairs the provisions of Section 274(1)(g) of the Companies Act, 1956 are not applicable to a Government Company.

7. In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31 St March, 2011 did not exceed Rs. 50 Crores, Accounting Standard 03, 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.

Khushho
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd

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Managing Director
Bihar State Hydro Electric
Power Corp. Ltd



Ham
Chief Engineer (Electrical)
Bihar State Hydro Electric
Power Corp. Ltd

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

8. Amount of Contingent Liabilities not quantifiable on account of
- tax demands including interest and penalties
 - penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities
9. The material issued to contractors, claim recoverables, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.
10. The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing
11. Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).
12. The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organisation Act, 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final calculation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.
13. The previous year figures have been regrouped/reclassified, wherever necessary, to conform to the current presentation.

Krushko
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

AL
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



14
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Rajshahi, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

14. Information as required under Part IV of Schedule VI of the Companies Act, 1956
BALANCE SHEET ABSTRACT AND COMPANY'S GENERAL BUSINESS PROFILE

I. Registration Details			
Registration No.	1627	State Code	03
Balance Sheet Date	31.03.2011		
II. Capital Raised During the year (Amount in Rs. Thousands)			
Public Issue	NIL	Right Issue	NIL
Bonus Issue	NIL	Private Placement	NIL
III. Position of Mobilisation and Deployment of Funds (Amount in Rs. Thousands)			
Total Liabilities	6958836	Total Assets	6958836
Sources of Funds			
Paid-up Capital	990400	Reserve & Surplus	NIL
Government Grants	208408		
Secured Loans	NIL	Unsecured Loans	5760029
Application of Funds			
Net Fixed Assets (including capital work in progress)	4661561	Investments	NIL
Net Current Assets	1208343	Misc. Expenditure	NIL
Accumulated Losses	1088933	Deferred Tax Assets	NIL
IV. Performance of Company (Amount in Rs. Thousand)			
Turnover	65997	Total Expenditure	340817
Profit Before Tax (including other income) (+ for profit, - for loss)	-245369	Profit After Tax	-245369
Earnings/(Loss) Per Shares	Rs.(247.75)	Dividend Rate %	NIL
V. Generic Name of Three Principal Products / Services of Company (As per monetary terms)			
Not applicable (Generation of Electricity)			

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

[Signature]
(Alok Kumar)
Managing Director

In terms of our report of even date
For Salarpuria Jajodia & Co
Chartered Accountants

(CA H.K.P. Jain)
Partner
Membership No: 075101.

Patna-800001.
the day of 31-10-2019

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna-1

SALARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

AUDITORS' REPORT

To
The Shareholders,
Bihar State Hydroelectric Power Corporation Limited
Patna

- We have audited the attached Balance Sheet of Bihar State Hydroelectric Power Corporation Limited as at 31st March 2012 and also the Profit & Loss Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the management. Our responsibility is to express our opinion on these financial statements based on our audit conducted by us
2. We conducted our Audit in accordance with Auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An Audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation, and we believe that our audit provides reasonable basis for our opinion.
 3. As required by the Companies (Auditors' Report) Order, 2003 issued by the Government of India in terms of Section 227(4) of the Companies Act, 1956, and on the basis of such checks of the books and records of the Company as we considered appropriate and according to the information and explanations given to us, we annex hereto a statement on the matters specified in paragraphs 4 & 5 of the said order, to the extent applicable to the Company.
 4. Further to our comments in annexure referred to in paragraph 3 above and subject to our observations contained in paragraphs 7 to 21 to follow and consequent impact thereof on the Loss, assets and liabilities for the items quantified in para no.9.1, 10.1,10.2,10.3,11.3,11.5,11.6,11.7, 11.8,11.9,11.10, 11.11, 11.12, 11.13, 12,13,14, 15.1,15.4, 17 and 18 and our inability to quantify the impact of Loss, assets and liabilities in the other paras in the absence of proper information/ explanation and record at the end of the Company as stated in appropriate part of those paragraphs, we report that:
 - 4.1. We have obtained all the information and explanations, except stated in paragraph 5 to 21 in this report, which to the best of our knowledge and belief were necessary for the purpose of our audit.
 - 4.2. Subject to para No. 7 below, in our opinion, proper books of account, as required by law, have been kept by the Company so far as, appears from our examination of those books.
 - 4.3. The said Balance Sheet and Profit & Loss Account are in agreement with the books of account.
 - 4.4. In our opinion, the Balance Sheet and Profit & Loss Account have subject to paragraph 6 in this report been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 to the extent as applicable at the Company level and except as stated elsewhere and in Schedule '17' (Significant Accounting Policies and Notes on Accounts).
 - 4.5. As explained to us, as per Notification No. GSR 829(E) issued by Department of Company Affairs the provisions of Section 274(1)(g) of the Companies Act, 1956 are not applicable to a Government Company.
 - 4.6. Considering the deviations including errors and omissions reported in para 7 to 21 of this report, in our opinion and to the best of our information and according to the explanations given to us, the said accounts give the information required by the Companies Act, 1956 in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India:
- (a) In the case of the Balance Sheet, of the State of affairs of the Company as on 31st March, 2012 and
- (b) In the case of Profit & Loss Account, of the Loss of the Company for the year ended on that date.



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Ganga Bhawan, Patna-1

5. Financial statements of the Company for the current financial Year were prepared as per Schedule-VI of the Companies Act, 1956, however, the company has not prepared the financial Statements for the Current Year as per Revised Schedule VI in accordance with Notification no. S.O. 447(E), dated 28-2-2011 [as amended by Notification No. F.No. 2/6/2008-CL-V, dated 30-3-2011] issued by the Ministry of Corporate Affairs and Guidance Note on Revised Schedule VI to the Companies Act, 1956 issued by the Institute of Chartered Accountants of India (together referred to as "Notifications"), which required that Financial Statements to be prepared in Revised Schedule-VI for the financial year commencing on or after April 1, 2011, even by the Company engaged in generation and distribution of Electricity till the time any other format is prescribed by the Electricity Act, 2003.
6. We have been informed that the Annual Accounts for the year ended 31 st March, 2011 have not been adopted by the Corporation in the Annual General Meeting. However, in view of instructions issued by the Comptroller and Auditor General of India vide circular No. 36-CA II / Co-Ordn / Actionable items of 2008-09/07-2009 dated 27.01.2009 the audit report is being released without previous year accounts being adopted in the Annual General Meeting of the Company.
7. Proper Books of accounts related to 5 units of Jharkhand (Jalimgarh, Lower Ghaghri, Netarhat, Nindigarh and Sadani) and 07 New Projects (Sipha, Barbal, Dagmara, Dhaoba, Katni, Mathauli and Nirmali) were not available for our verification. Transactions at these units during the year comprise only allocation of interest, head office expenses and depreciation.
8. **Going Concern Assumption:** The Accounts of the Corporation have been prepared on the *Going Concern assumption*. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.
9. **Grant in Aid:**
- 9.1. During the year a sum of Rs. 1,22,50,000/- has been received under this head for projects making total of Rs. 22,06,58,000/- as on 31.03.2012. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.
- 9.2. A difference of Rs.131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were noticed. Reason and Correctness of this difference has not been explained to us.
10. **Unsecured Loan:**
- 10.1. During the year a sum of Rs. 1,96,07,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2012 comes to Rs. 1,82,72,29,000/-. No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 24,08,65,633/- has been provided during the year which comes to approximately 13.32% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.



May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

SALARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

10.2 During the year a sum of Rs. 336342000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2012 comes to Rs. 1,33,52,40,000/- . No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs10,97,89,736/- has been provided during the year which comes to approximately 11.00% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.

10.3. The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.

11. Fixed Assets:

11.1. Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard -10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.

11.2. During the year a sum of Rs. 27,720/- at Triveni has been shown as addition to Free hold land (including Rs. 220/- paid in Cash), but Proper Documents / Title Deeds were not made available to us for verification.

11.3. Fixed Assets includes a sum of Rs.1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.

11.4. No detail of addition to fixed assets and calculation sheet or any other record was available to verify the additions to fixed assets and correctness of depreciation charged. It has been noticed that 100% depreciation on fixed assets costing not more than Rs. 5000 has not been charged. It has also been noticed that no depreciation has been charged on additions to fixed assets in some cases.

11.5. Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.

11.6. Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of



Chief Engineer (Elect.)
Bihar State Hydroelectric
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Sone Bihar

SALARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

- 11.7. Fixed Assets also includes a sum of Rs.1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 11.8. Fixed Assets also includes a sum of Rs.72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the current financial year for Western Sone (Dehri) Unit Capitalised during the Financial Year 2011-12 under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is Rs. 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 11.9. Fixed Assets also includes a sum of Rs.36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 11.10. Fixed Assets includes a sum of Rs. 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 11.11. Fixed Assets includes a sum of Rs. 25,74,696/- (Construction of Escape Regulator) and Rs. 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the current financial Year as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.



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11.12. A sum of Rs. 9242/- has also been noticed as addition to fixed assets under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.

11.13. Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.

12. Capital Work in Progress:

12.1. Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 1,24,54,40,856/- and Development Expenditure including borrowing cost amounting to Rs. 2,51,84,99,668/-. Besides neagative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs. 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial years. Reason of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.

12.2. Neagative balance under the head of Electric Equipment and Fabrication amounting to Rs. 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Current Financial year. Reason of negative balance could not be explained.

12.3. Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 6435.83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (Rs. 9717966/-), dewatering at Walidad (Rs. 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.

12.4. In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.

12.5. During the current year a sum of Rs.6,04,90,058/-related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development / activity were made on these Projects. Thus till now a sum of Rs. 13,44,37,746/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure /loss of the year with corresponding overstatement of capital expenditure.

12.6. During the current year a sum of Rs.52,61,414/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these



Chief Engineer (Elect.)
Bihar State Electricity Board
Bogota, Bihar
Bogota, Bihar

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projects it was not proper to allocate Head Office Expenses amounting to Rs.82492/- to Low Ghaghar project resulting understatement of revenue expenditure /loss of the year with corresponding overstatement of capital expenditure

- 12.7. We have noticed that in compliance of Accounting Policy disclosed in Notes 2.11 and 2.12 Schedule 17 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.
- 12.8. Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.
- 12.9. We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.
- 12.10. Capital-work in Progress includes a sum of Rs. 645525/- which is Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.
- 12.11. Capital Work in Progress includes a sum of Rs. 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.
- 12.12. Capital Work in Progress includes a sum of Rs.54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.

13. Inventories:

- 13.1. It includes Rs. 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.
- 13.2. Inventories includes Capital Stores amounting to Rs. 67,78,250/- which requires *thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.*



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Chief Engineer (Elect.)
Bihar State Hydroelectric
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13.3. Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs. 67,767/-. Considering it's future usability, in our opinion these should be charged to revenue.

13.4. Against Opening Balance of stamps in hand amounting to Rs. 309689/-, a sum of Rs. 395885/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs. 348595/- has been accounted but due to difference in opening balance book balance of Rs. 262399/- has been shown. This has resulted in Understatement of stamp in hand by Rs. 86196.00 and overstatement of expenses/loss.

14. Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors.

15. Cash & Bank Balance:

15.1. Confirmation related to balance of Rs. 14620/- shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620/-. Reconciliation Statement / Reason for such a huge difference was not produced before us.

15.2. Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years. In some cases Latest Bank Reconciliation Statement being balance tallied with Books of Accounts were not produced. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit were not recorded) are outstanding , Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.

15.3. Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.

15.4. Against Opening Balance of stamps in hand amounting to Rs. 9513/-, a sum of Rs. 6110/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs. 9003/- has been accounted but due to difference in opening balance book balance of Rs. 12406/- has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss.



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Bhagalpur

15.5. No proper adjustment of income tax deducted at source (TDS) where ever deducted, was found. Non adjustment of TDS results in short adjustment of income/interest accrued.

15.6. Calculation sheet of interest provision was not available.

15.7. Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.

16. Loans & Advances:

16.1. Advance Recoverable in cash includes Rs. 52.66 crore advances to suppliers/contractors and Rs. 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance/ advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc, which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.

16.2. Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance Rs. 22,515/-, Advance for Advertisement Rs. 2,75,555/-, Guest house Rent (Pre-Paid Expenses) 10,000/-, L.T.C Advance Rs. 56758/-, T.A. Advance Rs. 19,12,726/-, Legal Advance Rs.15,60,516/-, Transfer Travelling Advance Rs. 61,722/-, Consultancy Advance Rs. 44,250/-, Temporary Advance Rs. 8491238/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.

16.3. Loans and Advances include a sum of Rs. 1,43,23,094/- towards advance to staff comprising Rs. 11,49,887/- towards Salary Advance, Rs. 58,541/- towards marriage advance, Rs.8,77,976/- towards House Building Advance, Rs. 6,86,118/ towards Medical Advance, etc where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisability of these staff advances.

16.4. Advances include opening balance of Rs. 1,33,10,221/- being Advance Tax Deposit / Tax Deducted at Source ,etc, detail of which was not available and reason of non-adjustment could not be explained.

16.5. During the year a sum of Rs. 26,89,930/- has been accounted as income tax deducted at source on interest paid by banks as against interest income of Rs.42,62,13,809/-. Further, it was noticed that the same has not been reconciled with the figures of certificates obtained from banks, as per 26AS, the amount of TDS was found Rs. 25,19,971/- only. Further, Refund of Rs. 36780/- received during the year not linked with proper account.



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SALARPURIA JAJODIA & CO.
CHARTERED ACCOUNTANTS

- 16.6. Advance for land acquisition amounting to Rs. 5,00,000.00 outstanding since long remains to be adjusted /recovered.
- 16.7. Loans and advances includes a sum of Rs. 43.89 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department, , we are unable to offer our comments on realisibility of this amount and resulting loss.
- 16.8. Balances of Ranchi Project Office and Inter Unit current account to Rs. 3,98,884.87 outstanding since long remain to be reconciled.

17. Current Liabilities & Provisions:

- 17.1. Sundry Creditors amounting to Rs. 100.65 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.
- 17.2. Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.
- 17.3. Liability includes a sum of Rs. 228828/- (Credit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,372/- which is the amount of Gratuity Paid to the employee against which amount was not received from L.I.C and which should have been charged to revenue. During the Current a sum of Rs. 10,36,432/- was received from L.I.C against which a sum of Rs.634226/- only was paid during the year and balance Rs. 402206/- is payable in next Financial Year. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by Rs. 277312/-.
- 17.4. Current Liabilities include a sum of Rs. 477243/-(including Rs. 66944/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956 , which requires Audit Fee payable to Statutory Auditors should be separately disclosed.
- 17.5. Current Liabilities include a sum of Rs. 13,92,198/- (Debit) being Grant in Aid receivable from Govt. of Bihar since long but it's nature and reason for outstanding since long time could not be explained to us.
- 17.6. Current Liabilities include a sum of Rs.45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long. During the year a sum of Rs. 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back and hence loss for the year as well as liability is overstated to that extent.



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.



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18. Profit & Loss Account:

- 18.1. During the Year a sum of Rs. 13.62 crores was paid towards interest on PFC loan. The amount relates to previous accounting year for which proper provisions were not made in particular Financial year. The amount paid should have been treated as prior period expenses but the corporation has treated as expenses of current financial year.
- 18.2. A sum of Rs. 3629730/- was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and the amount was reimbursable to the Corporation but the same has been treated as expenses for the year, which resulted into overstatement of expenses and understatement of Current Assets.
- 18.3. In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.
- 18.4. Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.
- 18.5. Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.

19. Deviation from Accounting Standards:

The Company has not followed the following applicable Accounting Standards issued by the Institute of Chartered Accountants of India in Preparation of Financial Statements: Accounting Standard-1 to the extent stated in Note 2.2 of Schedule-17 to the Accounts, Accounting Standard-2 related to Valuation of Inventories, Accounting Standard-3 related to Cash Flow Statement, Accounting Standard -4 related to Contingencies and Events occurring after Balance Sheet Date, Accounting Standard-10 related to Accounting for Fixed Assets, Accounting Standard -12 related to Accounting for Government Grants, Accounting Standard -15 related to Employee Benefits, Accounting Standard-16 related to Borrowing Cost, Accounting Standard-17 related to Segment Reporting, Accounting Standard-18 related to Related Party Disclosures, Accounting Standard-28 related to Impairment of Assets and Accounting Standard-29 related to Provisions, Contingent Liabilities and Contingent Assets.

Disclosures:

- 20.1. The Company has not separately disclosed additional informations in the Financial Statements as required by Notification No. GSR 494(E) dated 30 th October, 1973 related to Sales, Employee Remuneration, Export Turnover, and other non monetary disclosures.
- 20.2. The management has not furnished the following information although required to be disclosed by way of a note to the accounts :
Claims against the Company not acknowledged as debt.
Estimated amount of contracts remaining to be executed on capital account and not provided for.
- 20.3. Particulars of Advances: As required by Schedule VI Part II of The Companies Act, 1956, the Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.



Chief Engineer
Bihar State Electricity
Power Corporation Ltd.
Some Bhawan

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21. As explained Kosi Kataiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferer related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.
22. Observations made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.

PATNA
The 05th day of February, 2020
UDIN: 20012525AAAAAE7415

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)

(CA H.K.P. Jain)
PARTNER
M.No.012525



CHARTERED ACCOUNTANTS (Firm)
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

ANNEXURE TO THE AUDITORS' REPORT ON THE ACCOUNTS FOR THE YEAR ENDED 31ST MARCH, 2012
(Referred to in paragraph '3' of our report of even date)

1. In respect of its fixed assets:

- a. The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.
- b. As explained the fixed assets have not been physically verified by the management during the year.
- c. No substantial part of fixed assets has been disposed off during the year affecting the going concern status of the company on this matter.

2. In respect of its inventories :

- a. The Inventories have not been physically verified during the year by the management. Clause (b) and (c) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.

3.a. As explained to us, the Company has not granted any Loan to Companies, Firms or other Companies listed in the registers maintained under section 301 and to the Companies under the same management. As such clause b, c and d are not applicable for the Company. However, Register maintained under section 301 was not shown to us.

3.b. As explained to us, the Company has not taken any loan from the Companies firms or other parties listed in the Registers maintained under section 301. As such clause f and g are not applicable for the Company. However, Register maintained, if any, under section 301 was not shown to us.

4. In our opinion, there are reasonable internal control system commensurate with the size of the unit and nature of its business relating to purchase of inventory and fixed assets and for sale of energy and other services, however it needs to be strengthened in the area such as Project Cost incurred vis- a- vis value of Project as per DPR and its approval from the Government, linking of credit and debit balances appearing in Bank Reconciliation, linking of advances to Contractors / supplier with liabilities, proper reconciliation and adjustment of advances, awarding of Contract of Projects, distribution of Mobile phones to employees and its control, etc. As per our test checks, there is no serious continuing failure to correct major weakness in internal control system.

5.a. As register maintained under section 301 of the Companies Act, 1956. was not available we are unable to state whether particulars of contracts or arrangements referred to in section 301 of the Companies Act, 1956 have been entered in the register required to be maintained under that section.

5.b. For the reason stated in sub-paragraph (a) above we are unable to state whether transactions made in pursuance of contracts or arrangements entered in the register maintained under section 301 of the Companies Act, 1956 have been made at prices which are reasonable having regard to prevailing market prices.

The Company has not accepted deposits from the public within the meaning of Section 58A and 58 AA or any other relevant provisions of the Companies Act, 1956 and the rules framed there under.



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

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7. The company has engaged a firm of Chartered Accountants to get annual account prepared and signed with report thereon. Internal audit should be carried out throughout the financial year requiring periodical reporting to enable the management to take corrective measure in time where ever required.
8. As explained to us, matter related to maintenance of cost records is not applicable to this company in view of the nature of its business.
9. (a) In absence of relevant returns and records it is not possible to comment upon regular deposit of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2012 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of Investor Education and Protection Fund, Custom Duty, Excise Duty and Cess in view of its nature of business.

(b) For the reason stated in sub-para (9)(a) above, it is also not possible to mention the statutory dues of Sales Tax/ Income Tax/ Custom Duty/ Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.
10. The Accumulated loss of the Company as on 31st March, 2012 exceed 50% of its net worth. The company has incurred cash losses during the current financial year covered by our audit and also in the immediately preceding financial year.
11. Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, or debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.
12. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities.
13. In our opinion, the Company is not a chit fund or a Nidhi /Mutual benefit fund/society. Therefore, clause 4(xiii) of the Companies (Auditor's Report) Order, 2003 is not applicable to the Company.
14. In our opinion and according to the information and explanations given to us, the Company is not a dealer or trader in shares, securities and debentures and there is no investment by the company.
15. In our opinion and according to the information and explanations given to us, the Company has not given guarantees for loans taken by others from Banks or financial institutions.
16. As explained by the company, the term loans received from Government of Bihar have been applied for the purpose for which they were obtained, subject to para 4 above.



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bihar, India


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17. According to the information and explanations given to us and on an overall examination of the balance sheet of the company, we state that the no funds raised on short-term basis have been used for long term investment.
18. During the year the Company has not made any preferential allotment of shares to parties and companies covered in the register maintained under Section 301 of the Companies Act, 1956.
19. The Company has not issued any debentures.
20. The Company has not raised any money during the year by public issue.
21. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.


PATNA

The 05th day of February, 2020

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)


(CA H.K.P. Jain)
PARTNER
M.No.012525




Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna
BALANCE SHEET AS AT 31ST MARCH, 2012

PARTICULARS	Schedule	As at 31.03.2012	As at 31.03.2011
		₹	₹
<u>SOURCES OF FUNDS</u>			
<u>Shareholders' Funds</u>			
Capital	1	99,04,00,000.00	99,04,00,000.00
<u>Government Grants</u>	2	22,06,58,000.00	20,84,08,000.00
<u>Loan Funds</u>	3		
Unsecured Loans		6,46,66,33,057.22	5,76,00,28,688.22
		7,67,76,91,057.22	6,95,88,36,688.22
<u>APPLICATION OF FUNDS</u>			
<u>Fixed Assets</u>	4		
Gross Block		2,26,61,96,096.20	2,07,03,51,813.01
Less : Depreciation		81,00,08,493.88	73,35,48,367.15
Net Block		1,45,61,87,602.32	1,33,68,03,445.86
Capital work-in-progress	5	3,76,39,40,523.91	3,32,47,57,507.11
<u>Current Assets, Loans & Advances</u>			
Inventories	6	1,24,76,730.20	1,25,24,020.30
Sundry Debtors	7	16,54,74,929.00	17,57,09,927.00
Cash & Bank Balances	8	37,06,20,377.98	57,18,40,986.47
Loans & Advances	9	57,81,48,517.78	53,91,05,201.86
		1,12,67,20,554.96	1,29,91,80,135.63
<u>Less : Current Liabilities and Provisions</u>			
Liabilities	10	11,58,62,523.73	9,08,37,263.14
Provisions		11,58,62,523.73	9,08,37,263.14
Net Current Assets		1,01,08,58,031.23	1,20,83,42,872.49
<u>Profit and Loss Account</u>			
As per accounts annexed		1,44,67,04,899.76	1,08,89,32,862.76
<u>Significant Accounting Policies and Notes on Accounts :</u>	17	7,67,76,91,057.22	6,95,88,36,688.22

Khushboo
(Khushboo)
Company Secretary

17
[Signature]
Director

[Signature]
(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

(CA H. K. Jain)
MRN 012525
(Partner)



Place: Patna

The 05th day of February, 2020

[Signature]
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna
PROFIT & LOSS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2012

PARTICULARS	Schedule	Current Year	Previous Year
		₹	₹
INCOME			
Sales	11	10,20,02,808.00	6,59,96,662.
Other Income	12	4,50,89,371.13	2,94,51,665.
		<u>14,70,92,179.13</u>	<u>9,54,48,327.</u>
EXPENDITURE			
Operation and Maintenance of Power House	13	3,28,14,225.00	2,49,65,652.
Repairs and Maintenance of Power House		1,27,25,834.00	1,22,07,907.
Administrative and Management Expenses	14	7,21,70,454.89	7,15,68,211.
Interest & Finance charges	15	31,14,77,486.00	16,62,60,261.
Depreciation	16	7,56,76,216.24	6,58,15,350.
		<u>50,48,64,216.13</u>	<u>34,08,17,381.</u>
Loss for the year before tax		(35,77,72,037.00)	(24,53,69,054.)
Provision for Income Tax		-	-
Deferred Tax		-	-
Loss for the year after Tax		(35,77,72,037.00)	(24,53,69,054.)
Loss brought forward		(1,08,89,32,862.76)	(84,35,63,808.0)
Loss carried to Balance Sheet		<u>(1,44,67,04,899.76)</u>	<u>(1,08,89,32,862.7)</u>
Earning Per Share:			
Basic & Diluted (Nominal value per share ₹ 1000/-)		(361.24)	(247.7)
Weighted Average Number of Equity Shares (Basic & Diluted)		9,90,400	9,90,400

Significant Accounting Policies and Notes on Accounts

Khushboo
(Khushboo)
Company Secretary

17
[Signature]
Director

Al
(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

(CA H.K.R. Jain)
MRN 012525
(Partner)



Place: Patna
The day of February, 2020
05K

May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
For the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 1		
Share Capital		
<u>Authorised</u>		
10,00,000 Equity share of Rs. 1000/- each	1,00,00,00,000.00	1,00,00,00,000.00
(P.Y 10,00,000 Equity share of Rs. 1000/- each)		
<u>Issued,Subscribed and Paid-up</u>		
9,90,400 (P.Y. 9,90,400) Equity share of Rs. 1000/- each		
fully paid-up in cash	99,04,00,000.00	99,04,00,000.00
TOTAL	99,04,00,000.00	99,04,00,000.00
SCHEDULE : 2		
Government Grants		
<u>Capital Subsidy</u>		
As per last account	20,84,08,000.00	15,81,00,500.00
Addition during the year	1,22,50,000.00	5,03,07,500.00
TOTAL	22,06,58,000.00	20,84,08,000.00
SCHEDULE : 3		
Unsecured Loans		
<u>Other Loan</u>		
<u>From Government of Bihar</u>		
Principal	1,82,72,29,000.00	1,80,76,22,000.00
Interest accrued	2,98,90,98,767.22	2,74,82,33,134.22
	4,81,63,27,767.22	4,55,58,55,134.22
<u>From Government of Bihar under RIDF (NABARD) Scheme</u>		
Principal	1,33,52,46,000.00	99,89,04,000.00
Interest accrued	31,50,59,290.00	20,52,69,554.00
	1,65,03,05,290.00	1,20,41,73,554.00
TOTAL	6,46,66,33,057.22	5,76,00,28,688.22

Notes :

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

Hay
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Al
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

SCHEDULE - 4

PARTICULARS	GROSS BLOCK		DEPRECIATION		NET BLOCK	
	As at 01.04.2011	Addition during the year	Sales/ Adj.	As at 31.03.2011	Depreciation for the year	As at 31.03.2012
	₹	₹	₹	₹	₹	₹
1 Land - Freehold	2,03,83,606.53	27,720.00	-	2,04,11,326.53	-	2,04,11,326.53
2 Land - Leasehold	1,85,800.00	-	-	1,85,800.00	-	1,85,800.00
3 Buildings - Residential	1,83,03,457.67	-	-	1,83,03,457.67	2,98,347.00	1,84,46,750.85
4 Buildings - Non Residential	1,34,97,300.09	-	-	1,34,97,300.09	4,68,483.90	87,76,437.96
5 Buildings - Sheds	7,29,825.55	-	-	7,29,825.55	-	-
6 Roads & Bridges	4,36,71,017.07	-	-	4,36,71,017.07	13,18,865.00	2,19,63,476.34
7 Water Supply Installation	1,90,280.36	-	-	1,90,280.36	6,469.00	78,854.92
8 Electric Installation	16,91,27,557.70	3,68,56,659.00	-	20,59,84,216.70	64,96,243.00	4,19,88,109.56
9 Plant & Machinery	85,26,90,932.96	4,90,91,856.19	-	90,17,82,789.15	3,15,51,509.00	60,78,42,591.33
10 Power House	91,08,63,402.96	10,84,45,167.00	-	1,01,93,08,569.96	3,49,08,298.00	72,87,21,215.70
11 Furniture & Fixtures	32,65,860.11	3,26,001.00	-	35,91,861.11	1,85,048.00	32,79,304.80
12 Office Equipments	61,65,894.59	3,51,569.00	3,680.00	65,13,783.59	2,90,015.00	36,23,946.68
13 Other Equipments	2,29,31,864.94	-	-	2,29,31,864.94	5,03,781.00	52,81,912.23
14 EPBX Machine	4,22,050.00	1,18,300.00	-	5,40,350.00	21,510.00	3,25,067.35
15 Books	3,61,398.46	26,000.00	-	3,87,398.46	18,601.57	2,31,579.07
16 Vehicles	39,45,504.46	-	-	39,45,504.46	1,74,146.00	14,84,960.86
17 Bicycles	11,223.14	-	-	11,223.14	634.81	4.94
18 Computers	15,02,590.52	5,86,351.00	-	20,88,941.52	2,14,329.35	16,17,799.40
19 Other Assets	1,02,245.90	18,340.00	-	1,20,585.90	4,309.00	75,135.08
Total :-	2,07,03,51,813.01	19,58,47,963.19	3,680.00	2,26,61,96,096.20	7,64,60,126.73	1,45,61,87,602.32
Previous Year :-	2,02,64,83,000.73	4,38,68,812.68	-	2,07,03,51,813.01	6,66,54,542.50	1,33,68,03,445.86

K. K. Sharma
Company Secretary
 Bihar State Hydro Electric
 Power Corp. Ltd
PATNA

Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Baphe Chauhan Patna

Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
PATNA

Managing Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
PATNA



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
4 During the year 2009-10 loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
5 During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
6 During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
7 During the Year 2011-12 Loan of Rs. 336342000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 10 new projects and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		
8 During the year 2011-12 loan of Rs. 19607000 received from Government of Bihar for 2 new projects namely Sipha and Dehra and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.		

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

SCHEDULE 1
CAPITAL WORK IN PROGRESS

Sl NO	PARTICULARS	As at 01.04.2011	Addition during the year	Deduction during the year	As at 31.03.2012
		₹	₹	₹	₹
A	Assets under construction/installation				
1	Building	76,51,544.21	-	-	76,51,544.21
2	Generating Equipments	12,39,06,561.89	-	-	12,39,06,561.89
3	Power House	13,93,15,137.11	-	-	13,93,15,137.11
4	Transformer (Sub-Station Equipments)	52,36,595.73	-	-	52,36,595.73
5	Auxiliary & Ancillary Equipments	1,09,542.00	-	-	1,09,542.00
6	Road & Bridges	90,67,794.41	-	-	90,67,794.41
7	Water Supply Installation	11,64,233.42	-	-	11,64,233.42
8	Intake Gates	58,12,325.74	-	-	58,12,325.74
9	Generating Set	1,14,594.24	-	-	1,14,594.24
10	Expenses on Investigation	5,52,005.05	-	-	5,52,005.05
11	Power/Esc. Channel	3,75,24,050.13	-	-	3,75,24,050.13
12	Excavation Work-in-Progress	2,43,680.00	-	-	2,43,680.00
13	Transmission System	1,00,16,050.09	-	-	1,00,16,050.09
14	Fencing Wall	22,724.00	-	-	22,724.00
15	Rock Excavation Allow Pen Stock	58,89,944.20	-	-	58,89,944.20
16	Tail & Tunnel	1,72,93,114.70	-	-	1,72,93,114.70
17	Fabrication Erection	2,56,47,213.00	-	-	2,56,47,213.00
18	Construction of Pen Stock	5,87,542.00	-	-	5,87,542.00
19	Plantation	54,978.00	-	-	54,978.00
20	Micro Hyde Set	8,14,029.00	-	-	8,14,029.00
21	Dewatering of Pit	97,17,966.00	-	-	97,17,966.00
22	Construction of Store & Godown	7,30,116.00	-	-	7,30,116.00
23	Designing & Drawing	1,65,500.00	-	-	1,65,500.00
24	Land Acquisition	43,78,205.00	-	-	43,78,205.00
	AMETHI				
25	Power House(Amethi)	2,25,54,109.45	59,06,342.00	-	2,84,60,451.45
26	Construction of E/M Amethi	2,17,47,024.28	5,37,567.00	-	2,22,84,591.28
	ARWAL				
27	Construction of E/M Arwal	83,08,575.40	-	83,08,575.40	-
28	Power House (Arwal)	4,55,59,981.00	20,75,193.00	4,76,35,174.00	-
29	Electric Equipments(Arwal)	-	11,46,669.00	54,76,980.00	(43,30,311.00)
30	Fabrication(Arwal)	-	-	8,71,981.00	(8,71,981.00)
31	Switchyard(Arwal)	1,97,600.00	-	1,97,600.00	-
	BELSAR				
32	Power House(Belsar)	3,63,48,085.00	92,21,640.00	-	4,55,69,725.00
33	Construction of E/M Belsar	2,19,68,975.32	80,79,630.00	-	3,00,48,605.32
34	Switchyard(Belsar)	40,014.00	-	-	40,014.00
	JALIM GHAGH				
35	Power House(Jalim)	1,93,06,480.00	-	-	1,93,06,480.00
	RAJPUR				
36	Plant & Machinery (Rajapur)	30,14,184.00	-	-	30,14,184.00
	LGP				
37	Power House (LGP)	1,42,40,389.43	-	-	1,42,40,389.43
	RAMPUR				
38	Power House(Rampur)	1,41,62,608.73	-	-	1,41,62,608.73
	NATWAR				
39	Power house (Natwar)	1,23,98,227.00	20,22,922.00	-	1,44,21,149.00
40	Eot Crane (Natwar)	14,26,000.00	-	-	14,26,000.00
	NINDI				
41	Power House (Nindi)	8,52,489.00	-	-	8,52,489.00
	PHARMA				
42	Power House (Pharma)	2,41,40,789.00	29,34,609.00	-	2,70,75,398.00
	RAJPUR				
43	Power House (Rajapur)	3,95,95,491.00	30,18,738.00	-	4,26,14,229.00
	SDP				
44	Power House (SDP)	2,32,60,103.66	-	-	2,32,60,103.66
	DEHRA				
45	Power House (Dehra)	24,10,441.00	1,19,22,841.00	-	1,43,33,282.00
	TB				
46	Power House (TB)	10,86,354.00	-	-	10,86,354.00
	TEJPURA				
47	Power House (Tejpura)	5,85,97,776.00	92,032.00	-	5,86,89,808.00
48	Transmission Line-Tejpura	-	1,88,000.00	-	1,88,000.00
49	Switchyard(Tejpura)	18,69,937.00	3,43,377.00	-	22,13,314.00

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.

Director
Bihar State Hydroelectric
Power Corp. Ltd.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Annex 5

WORK IN PROGRESS

Sl. No.	PARTICULARS	As at 01.04.2011	Addition during the year	Deduction during the year	As at 31.03.2012
		₹	₹	₹	₹
	WALIDAD				2,40,94,612.00
50	Power House(Walidan)	2,37,63,510.00	3,41,102.00	-	2,40,94,612.00
51	Construction of Electric Equipment (Walidan)	1,48,15,567.72	-	-	1,48,15,567.72
	BARBAL				2,11,51,377.00
52	Power House(Barbal)	-	2,11,51,377.00	-	2,11,51,377.00
	BATHNAHA				1,34,20,444.00
53	Power House(Bathnaha)	-	1,34,20,444.00	-	1,34,20,444.00
	MATHAULI				2,08,71,104.00
54	Power House(Mathauli)	-	2,08,71,104.00	-	2,08,71,104.00
55	Land-Mathauli	-	34,54,862.00	-	34,54,862.00
56	Construction of Power Chand(Mathauli)	-	29,23,994.00	-	29,23,994.00
	NIRMALI				47,20,776.00
57	Power House(Nirmali)	-	47,20,776.00	-	47,20,776.00
	SIPHA				1,99,73,376.00
58	Power House(Sipha)	-	1,99,73,376.00	-	1,99,73,376.00
	KATANIA				2,97,19,632.00
59	Power House(Katania)	-	2,97,19,632.00	-	2,97,19,632.00
	TRIVENI				(10,19,922.00)
60	Land - Triveni	(10,19,922.00)	-	-	(10,19,922.00)
	SADANI				12,70,800.00
61	Land - Sadani	12,70,800.00	-	-	12,70,800.00
	BARBAL				51,47,640.00
62	Land-Barbal	-	51,47,640.00	-	51,47,640.00
	KATANYA				27,19,273.00
63	Land-Katanya	-	27,19,273.00	-	27,19,273.00
	NIRMALI				61,66,360.00
64	Land-Nirmali	-	61,66,360.00	-	61,66,360.00
	BATHNAHA				1,13,50,188.00
65	Land-Bathnaha	-	1,13,50,188.00	-	1,13,50,188.00
66	Construction of E/M (Bathnaha)	-	90,20,000.00	-	90,20,000.00
67	Tools & Plant-Bathnaha	-	50,903.00	-	50,903.00
	JAINAGRA				(1,03,73,276.00)
68	Construction of E/M Jainagra	(1,03,73,276.00)	-	-	(1,03,73,276.00)
	NATWAR				29,70,194.92
69	Construction of E/M Natwar	22,35,536.92	7,34,658.00	-	29,70,194.92
	PHARMA				4,27,94,649.00
70	Construction of E/M Pharma	1,15,51,771.00	3,12,42,878.00	-	4,27,94,649.00
71	Construction of E/M Pharma	2,56,500.00	-	-	2,56,500.00
	RAJAPUR				4,06,02,168.60
72	Construction of E/M Rajapur	3,93,57,624.60	12,44,544.00	-	4,06,02,168.60
73	Tools & Plant-Rajapur	-	3,055.00	-	3,055.00
	RAMPUR				1,12,67,111.00
74	Construction of E/M Rampur	1,11,32,726.00	1,34,385.00	-	1,12,67,111.00
	CHANDIL				7,58,49,673.58
75	Construction of E/M (Chandil)	7,58,49,673.58	-	-	7,58,49,673.58
	NORTH KOEL				8,34,12,950.45
76	Construction of E/M (North Koel)	8,34,12,950.45	-	-	8,34,12,950.45
	TEJPURA				2,40,46,232.84
77	Construction of E/M (Tejpura)	2,33,07,222.84	7,39,010.00	-	2,40,46,232.84
	Total A	1,05,53,12,045.33	25,26,19,121.00	6,24,90,310.40	1,24,54,40,855.93
	Previous Year	75,77,80,058.53	29,88,60,663.89	13,28,677.09	1,05,53,12,045.33
	B. Development Expenditure				
		₹	₹	₹	₹
1	Project Report Survey & Consultancy Charges	1,64,77,053.46	0.00	0.00	1,64,77,053.46
2	Preliminary Expenses - Projects	6,67,77,195.82	2,60,83,559.00	3,15,690.00	9,25,45,064.82
3	New Project Expenses	5,03,546.00	0.00	0.00	5,03,546.00
4	Development Expenditure as per last account	63,27,03,539.38	0.00	0.00	63,27,03,539.38
5	Development Expenditure (Detail of addition given below)				
	Arathi	1,43,54,762.70	-	0.00	1,43,54,762.70
	Arwal	1,53,61,038.79	24,90,293.00	1,83,60,330.79	1,53,61,038.79
	Barbal	39,82,629.00	60,03,246.00	0.00	99,85,875.00
	Bathnaha	3,63,97,843.00	4,75,75,589.00	0.00	8,39,73,432.00
	Belsar	2,58,07,855.56	6,86,150.00	0.00	3,23,72,363.56
	Chandil	40,54,90,128.52	3,78,33,696.50	0.00	44,33,24,625.02
	Dagmara	5,36,52,884.35	3,27,40,426.54	0.00	8,63,93,310.89
	Dhoba	45,26,018.00	62,19,416.00	0.00	1,07,45,434.00

Krushish
Company Secretary
Bihar State Hydro Electric

Director
Bihar State Hydroelectric

Managing Director
Bihar State Hydroelectric



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

TABLE 5

PAID WORK IN PROGRESS

SL NO	PARTICULARS	As at 31.03.2012	Subsidy during the year	Production during the year	As at 31.03.2012
		₹	₹	₹	₹
	Sone	19,78,982.00	19,78,982.00	0.00	39,57,964.00
	Jalimgagh	1,60,60,153.89	13,32,500.00	0.00	1,73,92,653.89
	Katihar	50,10,848.00	70,78,328.00	0.00	1,20,89,176.00
	Lower Ghagan	1,00,81,270.47	7,19,141.00	0.00	1,08,00,411.47
	Mathua	21,71,836.00	43,45,178.00	0.00	68,17,024.00
	Mandal (North keel)	67,22,95,632.30	1,74,28,387.00	0.00	68,97,24,019.30
	Natwar	77,64,598.00	22,07,005.00	0.00	99,73,603.00
	Netaahal	12,91,397.68	79,197.00	0.00	13,73,594.68
	Nindigagh	1,60,61,727.47	13,32,500.00	0.00	1,73,94,227.47
	Nimrah	27,36,268.00	2,81,23,076.00	0.00	3,08,59,344.00
	Pharma	2,58,27,905.53	61,96,978.00	0.00	3,20,24,883.53
	Rajapur	1,74,05,558.73	39,70,208.00	0.00	2,13,75,766.73
	Rampur	86,54,431.43	22,75,131.00	0.00	1,09,29,562.43
	Sadam	2,72,21,238.00	17,98,076.00	0.00	2,90,19,314.00
	Dehra	21,24,481.00	21,24,481.00	0.00	42,48,962.00
	Sone Eastern	24,23,286.91	0.00	0.00	24,23,286.91
	Tejpora	3,89,49,694.65	87,01,826.00	0.00	4,76,51,520.65
	Tenu	6,78,42,277.75	41,68,158.95	0.00	7,20,10,436.70
	Waidad	1,74,62,486.73	43,55,185.00	0.00	2,18,17,671.73
	Total of 5	1,49,94,49,011.46	24,30,07,926.99	1,85,00,330.79	1,72,40,83,657.00
6	Interest on Loan - Bihar Government	1,83,63,681.13	0.00	0.00	1,83,63,681.13
7	Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00	0.00	37,577.00
8	Interest on Loan - NABARD	2,68,94,138.00	0.00	0.00	2,68,94,138.00
9	Transfer from Head Office	27,97,453.53	0.00	0.00	27,97,453.53
10	Capital Maintenance of PH (SW)	54,45,036.00	0.00	13,61,259.00	40,83,777.00
	Total B	2,26,94,45,461.78	26,90,91,485.99	2,00,37,279.79	2,51,84,99,667.98
11	Previous Year	2,04,82,15,444.33	22,14,32,623.45	2,02,606.00	2,26,94,45,461.78
12	Total Capital Work in Progress (A+B)	3,32,47,57,507.11	52,17,10,606.99	8,25,27,590.19	3,76,39,40,523.91
13	Previous Year (A+B)	2,80,59,95,502.86	52,02,93,287.34	15,31,283.09	3,32,47,57,507.11

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

(S)
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Hog
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Detail of Development Expenditure (Net)

		20011-12	2010-11
		₹	₹
1	INCOME		
	Recovery of House Rent	2,800.00	-
	Intt. On Marriage advance	1,000.00	580.00
	Recovery of Penalty	-	1,25,000.00
	Misc Income	1,79,443.00	-
	Total 1	1,83,243.00	1,25,580.00
2	EXPENDITURE		
	Salary & Allowance	1,05,79,991.00	97,16,717.85
	Wages Contingent Staff	1,76,169.00	-
	Rent	83,800.00	80,700.00
	Travelling & Conveyance	2,53,606.00	2,81,781.00
	Telephone & Telex Charges	50,968.00	67,079.00
	Printing & Stationary	22,476.00	19,019.00
	Postage	3,407.00	2,367.00
	Petrol, Oil & Lubricants	4,05,179.00	2,07,781.50
	Electricity Charges	6,572.00	10,00,000.00
	Bank Commission	-	1,897.00
	Repairs & Maintenance	16,58,415.00	2,91,870.00
	Transportation/Freight & Carriage Charges	20,550.00	16,000.00
	Insurance	2,47,228.00	2,62,502.00
	Hire Charges of Vehicle	4,71,042.00	9,16,296.00
	Preparation of E-TDS	8,430.00	8,770.00
	Consultancy/Legal Expenses	1,587.00	2,050.00
	Entertainment	59,919.50	43,998.00
	Interest on Government of Bihar Loan	8,82,13,450.00	8,34,64,554.00
	Interest on Government of Bihar Loan -RIDF (NABARD)	8,71,64,433.00	4,58,04,243.00
	Testing	-	44,120.00
	Miscellaneous Expenses	5,26,056.00	1,79,361.35
	Administrative & Management Expenses (HO) - Allocated	4,83,13,634.00	4,96,61,527.62
	Salary Allocated - Other Projects	41,40,347.00	31,88,774.00
	Depreciation	7,83,910.49	8,39,192.13
	Total 2	24,31,91,169.99	19,61,00,600.45
	NET (2-1)	24,30,07,926.99	19,59,75,020.45

Khushha
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Managing Director
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Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer (Elect.)
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Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 6		
<u>Inventories</u>		
Capital Stores	67,78,250.80	67,78,250.80
Materials issued to contractors	53,44,397.56	53,44,397.56
Stationery Items	2,62,399.05	3,09,689.15
Exide Battery	23,895.68	23,895.68
Stock Suspense	67,787.11	67,787.11
TOTAL	1,24,76,730.20	1,25,24,020.30

SCHEDULE : 7

Sundry Debtors

(Unsecured, considered good)

Debts outstanding for a period exceeding six months	6,68,94,810.00	14,59,57,440.00
Other debts	9,85,80,119.00	2,97,52,487.00
TOTAL	16,54,74,929.00	17,57,09,927.00

SCHEDULE : 8

Cash and Bank Balances

Balance with Scheduled Banks in Current Account	3,11,65,677.93	11,48,66,577.65
Short Term deposits with bank	15,66,07,896.83	45,67,00,000.00
PL Account with SBI Secretariat Branch	14,620.00	14,620.00
Cash on hand	2,21,777.22	2,50,275.82
Cheques in hand	18,25,98,000.00	
Stamps in hand	12,406.00	9,513.00
TOTAL	37,06,20,377.98	57,18,40,986.47

SCHEDULE : 9

Loans and Advances

(Unsecured, considered good)

Advances receivable in cash or in kind	51,09,00,583.68	46,62,39,013.63
Advance - Tax Deposit	1,59,63,370.96	1,33,10,220.96
Recoverables	17,65,524.17	17,65,524.17
Prepaid Expenses - Insurance	10,000.00	10,000.00
Receivables- Energy Dept. Govt of Bihar	43,88,857.10	42,79,857.00
Interest Accrued on Fixed Deposits	1,42,09,297.00	5,25,79,671.23
Security Deposit - BSEB (TB)	12,000.00	12,000.00
Security Deposit - (Telephone)		10,000.00
Advance for land acquisition	5,00,000.00	5,00,000.00
Ranchi Project Office	2,38,066.00	2,38,066.00
Inter Unit Current Account	1,60,818.87	1,60,818.87
TOTAL	57,81,48,517.78	53,91,05,201.86

Khushboo
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Bihar State Hydro Electric
Power Corp. Ltd
PATNA

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Director
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PATNA

[Signature]
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Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 10		
Liabilities		
Sundry Creditors	1,00,65,818.91	96,00,295.91
Liabilities for expenses	2,20,72,179.71	1,34,55,856.23
Other Liabilities	46,95,228.48	36,96,624.48
Income Tax deducted at source	(2,24,379.41)	(2,44,753.41)
Security Deposits	4,50,64,323.99	3,63,01,639.88
Deductions from Contractors	2,36,79,874.77	2,38,12,567.77
Royalty	64,35,550.75	1,97,877.75
Sales Tax	(1,11,15,070.07)	(1,07,13,551.07)
VAT	3,48,038.00	2,91,953.00
Service Tax	20,600.00	20,600.00
Grant in Aid	(13,92,198.00)	(13,92,198.00)
Irrigation Department	1,15,00,000.00	1,15,00,000.00
Interest accrued - PFC Loan	45,31,253.00	45,31,253.00
Group Gratuity Payable	2,28,828.00	(1,73,378.00)
Suspense	(47,524.40)	(47,524.40)
TOTAL	11,58,62,523.73	9,08,37,263.14

SCHEDULE : 11

Sales		
Sale of Electricity	10,20,02,808.00	6,59,96,662.00
TOTAL	10,20,02,808.00	6,59,96,662.00

SCHEDULE : 12

Other Income		
Interest - Fixed Deposits	4,26,21,380.13	2,75,57,982.72
Interest - Other	92,040.00	7,16,385.00
Interest - House Building Advance	4,84,840.00	3,98,944.00
Interest - Marriage Advance	6,003.00	852.00
Interest - Motor Cycle Advance	26,437.00	52,088.00
Recovery of Electricity	1,50,726.00	38,744.00
House Rent	90,449.00	1,69,943.00
Sale of Tender Paper	15,72,750.00	3,70,400.00
Miscellaneous Income	44,746.00	1,46,327.00
TOTAL	4,50,89,371.13	2,94,51,665.72

SCHEDULE : 13

Operation and Maintenance of Power House		
Operation and Maintenance	3,28,14,225.00	2,49,65,652.00
TOTAL	3,28,14,225.00	2,49,65,652.00

Khushboo
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Power Corp Ltd
PATNA

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Director
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Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd
Sonebhat, Patna
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 14		
<u>Administrative and Management Expenses</u>		
Managing Director's Remuneration	15,90,787.00	7,21,161.00
Salary & Allowance	7,83,52,110.46	7,48,04,011.75
Gratuity Premium under L.I.C. Scheme	23,72,798.00	74,61,044.00
DLI and P.F. Administrative charges	7,80,404.00	6,51,487.00
Uniform and Liveries	78,967.00	1,21,131.00
Reimbursement of Medical & Educational Expenses	7,08,088.00	8,73,598.00
Account Computerisation	8,31,243.00	5,95,986.00
Rent	36,10,032.00	16,37,732.00
Electricity	17,16,925.00	17,21,284.00
Travelling & Conveyance	21,83,882.00	32,49,458.80
Petrol, Oil & Lubricants	10,35,933.70	15,91,691.67
Insurance	-	63,631.00
Advertisement	8,68,011.00	39,52,953.00
Telephone & Telex Charges	6,94,709.44	8,66,356.57
Internet Expenses	-	3,800.00
Printing & Stationary	6,32,680.10	10,55,321.45
Postage	2,522.00	79,521.00
Bank Charges	1,439.00	10,907.00
Repairs - Vehicles	2,01,754.00	2,16,855.40
Repairs - Building	9,73,114.00	18,70,346.00
Repairs - Plant	-	3,61,404.00
Repairs - Other	10,85,913.00	46,53,391.08
Hire & Rental Charges	36,31,312.00	41,41,189.00
Licence & Registration Fee	65,130.00	50,500.00
Consultancy/Legal & Professional fees	1,09,21,201.00	1,02,83,284.00
D.P.R Expenses	7,85,915.00	7,93,340.00
Statutory Auditors Fee	91,850.00	38,605.00
Internal Auditors Fee	44,944.00	88,792.00
Tax Audit Fees	22,000.00	22,000.00
Entertainment	5,03,095.00	12,82,350.50
Survey & Investigation	27,56,154.00	33,164.00
News Paper	-	13,472.00
Transportation Charges	47,900.00	91,953.00
Grant for Purchase of Computer	-	16,446.00
Donation & Subscription	6,65,000.00	31,500.00
Plantation	13,61,259.00	88,915.00
Testing & Commissioning	1,97,658.00	-
Miscellaneous Expenses	58,09,702.19	8,79,930.90
	12,46,24,435.89	12,44,18,513.12
Transfer to Capital Work in Progress (Schedule 5)	(5,24,53,981.00)	(5,28,50,301.62)
TOTAL	7,21,70,454.89	7,15,68,211.50



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd

[Signature]
Director
Bihar State Hydroelectric
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PATNA

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Schedules annexed to and forming parts of account
for the year ended 31st March, 2012

Particulars	CURRENT YEAR	PREVIOUS YEAR
	₹	₹
SCHEDULE : 15		
<u>Interest & Finance Charges</u>		
<u>Interest on Term Loans</u>		
Government of Bihar	24,08,65,633.00	23,22,75,435.00
Interest on PFC Loan	13,62,00,000.00	
Government of Bihar -RIDF (NABARD)	10,97,89,736.00	6,32,53,623.00
	48,68,55,369.00	29,55,29,058.00
Transfer to Capital Work in Progress (Schedule-5)	(17,53,77,883.00)	(12,92,68,797.00)
TOTAL	31,14,77,486.00	16,62,60,261.00

SCHEDULE : 16

Depreciation

As per Schedule 4	7,64,60,126.73	6,66,54,542.50
Transfer to Capital Work in Progress (Schedule-5)	(7,83,910.49)	(8,39,192.13)
TOTAL	7,56,76,216.24	6,58,15,350.37

Khushho
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



Hy
Chief Engineer (Elec)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

SCHEDULE : 17

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHPCL") for the year ended March 31, 2012. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 1956 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

2.1. Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to comply with the mandatory Accounting Standards referred in Section 211(3C) of the Companies Act, 1956.

2.2. Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

2.3. Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

2.4. Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.

2.5. Fixed Assets, Depreciation and Amortization:

Fixed Assets:

Fixed assets are stated at cost of acquisition/construction less disposal/depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd

[Signature]
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd
Bhawan, Patna
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

2.6 Capital Work in Progress

a. Capital work in progress includes:

- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production,
- ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
- iii. expenditure incurred on start-up and commissioning of the project including expenditure incurred on test run and
- iv. borrowing cost.

- b. The advances given to the Contractors for 'Turnkey Basis Projects' are Progressively capitalised on the basis of the running bills submitted by the Contractors.

2.7 Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.

2.8 Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

Krishna
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.

Director

Bihar State Hydroelectric
Power Corporation Ltd.

Managing Director

Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.9

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

2.10

Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

2.11.

Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.
- ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

2.12.

Apportionment of Head Office Expenses

- i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

Khushho
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Bihar State Hydroelectric
Power Corporation Ltd.
Bhagalpur, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.13. Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

2.14. Taxes on Income

- i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- ii. In view of uncertainty of future taxable income no deferred tax resulting from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006..

2.15. Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. these are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

3. Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.

4. The Assets and Liabilities, if any, after takeover of management of Koshi Kataiya Unit is yet to be accounted for, i.e. the assets and Liabilities are yet to be handed over to the Corporation. However, major renovation expenses have been done by the Corporation during the year and Capitalised during the year.

5. Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

6. Bank Accounts

- 6.1 Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.

- 6.2. Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements. Balance confirmations from banks remain to be obtained.

- 6.3. It includes Rs. 111491.36 related to balances of inoperative accounts remain to be confirmed.

7. Capital Grant received from MNRE, New Delhi for New Projects has been directly credited to Capital Grant as per para 2.8 of the Accounting Policy. The Corporation has received Rs. 122.50 lakhs in the current Financial Year for new Projects undertaken by the Corporation.

Krushna
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd



Director
Bihar State Hydroelectric
Power Corporation Ltd

Managing Director
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Power Corporation Ltd

Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd
Ghazipur, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Settlement with Power Finance Corporation amounting to 1362.00 Lakhs has been made as Current Financial Year interest.

Investment on Short Term Deposits at Head Office has not been Considered for apportionment and allocation on the Projects.

As per Notification No. GSR 829(E) issued by Department of Company Affairs the provisions of Section 274(1)(g) of the Companies Act, 1956 are not applicable to a Government Company.

In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31st March, 2011 did not exceed Rs. 50 Crores, Accounting Standard 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.

Amount of Contingent Liabilities not quantifiable on account of

tax demands including interest and penalties
penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities

The material issued to contractors, claim recoverable, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.

The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing

Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).

The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organisation Act, 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final calculation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.

The previous year figures have been regrouped/reclassified, wherever necessary, to conform to the current presentation.

Khushboo
Company Secretary
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PATNA

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Director
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PATNA



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Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Bihar State Hydroelectric
Power Corporation Ltd.
Patna-1

31st March
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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

18. Information as required under Part IV of Schedule VI of the Companies Act, 1956
BALANCE SHEET ABSTRACT AND COMPANY'S GENERAL BUSINESS PROFILE.

I	Registration Details			
	Registration No.	1627	State Code	03
	Balance Sheet Date	31.03.2012		
II.	Capital Raised During the year (Amount in Rs. Thousands)			
	Public Issue	NIL	Right Issue	NIL
	Bonus Issue	NIL	Private Placement	NIL
III.	Position of Mobilisation and Deployment of Funds (Amount in Rs. Thousands)			
	Total Liabilities	7677691	Total Assets	7677691
	Sources of Funds			
	Paid-up Capital	990400	Reserve & Surplus	NIL
	Government Grants	220658		
	Secured Loans	NIL	Unsecured Loans	6466633
	Application of Funds			
	Net Fixed Assets(including capital work in progress)	5220128	Investments	NIL
	Net Current Assets	1010858	Misc. Expenditure	NIL
	Accumulated Losses	1446705	Deferred Tax Assets	NIL
IV.	Performance of Company (Amount in Rs. Thousand)			
	Turnover	102000	Total Expenditure	459775
	Profit Before Tax (including other income) (+ for profit, - for loss)	-357772	Profit After Tax	-357772
	Earnings/(Loss) Per Shares	Rs.(361.24)	Dividend Rate %	NIL
V.	Generic Name of Three Principal Products / Services of Company (As per monetary terms)	Not applicable (Generation of Electricity)		

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

[Signature]
(Alok Kumar)
Managing Director

Signed for identification only.
For Salarpuria Jajodia & Co
Chartered Accountants

Patna-800001.
the 05th day of February, 2020

(CA H.K.P. Jain)

Membership No: 012525.

[Signature]
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



INDEPENDENT AUDITOR'S REPORT

We have audited the accompanying financial statements of Bihar State Hydroelectric Power Corporation Limited, which comprise the Balance Sheet as at March 31, 2013 and the Statement of Profit and Loss as at 31st March 2013 for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance and cash flows of the Company in accordance with the Accounting Standards referred to in sub-section (3C) of section 211 of the Companies Act, 1956 ("the Act"). This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements so that they give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

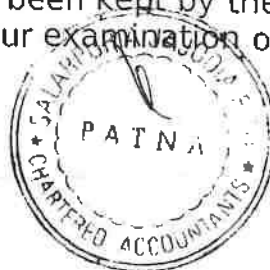
Opinion


Subject to our observations contained in paragraphs 3 to 19 and consequent impact thereof on the Loss, assets and liabilities for the items quantified in para no.6.1,7.1,7.2,8.3,8.5,8.6 to 8.21, 9,10,11,12.1,12.4, 13.2,13.3, 14 and 15 and our inability to quantify the impact of Loss, assets and liabilities in the other paras in the absence of proper information/ explanation and record at the end of the Company as stated in appropriate part of those paragraphs read together with "Significant Accounting Policies" in Note No. 19 and other Notes in "Notes on Accounts" in Note No. 1 to 18 and to the best of our information and according to the explanations given to us the financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India:

- (a) in the case of the Balance Sheet, of the state of affairs of the said Company as at March 31, 2013; and
- (b) in the case of the Statement of Profit and Loss, of the Loss for the year ended on that date; and

Report on Other Legal and Regulatory Requirements

1. As required by the Companies (Auditors' Report) Order, 2003 as amended by Companies (Auditor's Report) (Amendment) Order, 2004 issued by the Government of India in terms of Section 227(4A) of the Companies Act, 1956, and on the basis of such checks of the books and records of the Company as we considered appropriate and according to the information and explanations given to us, we annex hereto a statement in Annexure-A on the matter specified in paragraphs 4 & 5 of the said order, to the extent applicable to the Company of the company.
2. As required by section 227(3) of the Act, we report that:
 - a. we have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
 - b. Subject to para No. 4 below, in our opinion proper books of account as required by law have been kept by the Company of the Company so far as appears from our examination of those books;



By  **Chief Engineer (Elect.)**
Bihar State Hydroelectric
Power Corporation Ltd
(Sone Bhawan, Patna-I)

- c. the Balance Sheet and the Statement of Profit and Loss dealt with by this Report are in agreement with the books of account ;
- d. In our opinion, the Balance Sheet and Statement of Profit & Loss have been prepared by the Company of the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 to the extent as applicable at the Company level and except as stated elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).
- e. As referred in Note no. 19 para 18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
3. We have been informed that the Annual Accounts for the year ended 31 st March, 2011 and onwards have not been adopted by the Corporation in the Annual General Meeting. However, in view of instructions issued by the Comptroller and Auditor General of India vide circular No. 36-CA II / Co-Ordn / Actionable items of 2008-09/07-2009 dated 27.01.2009 the audit report is being released without previous year accounts being adopted in the Annual General Meeting of the Company.
4. Proper Books of accounts related to 5 units of Jharkhand (Jalimgarh, Lower Ghaghri, Netarhat, Nindigarh and Sadani) and 07 New Projects (Dehra, Sipha, Barbal, Dhaoba, Katni, Natwar and Mathauli) were not available for our verification. Transactions at these units during the year comprise only allocation of interest, head office expenses and depreciation.
5. Going Concern Assumption: The Accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.



My Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.,
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6. Grant in Aid:

- 6.1. During the year a sum of ₹ 50,00,000/- has been received under this head for projects making total of ₹ 22,56,58,000/- as on 31.03.2013. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Para 2.8 of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.
- 6.2. A difference of ₹131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were noticed. Reason and Correctness of this difference has not been explained to us.

7. Unsecured Loan:

- 7.1. During the year a sum of ₹ 14,36,70,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2013 comes to ₹ 197,08,99,000/-. No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 24,59,64,952/- has been provided during the year which comes to approximately 13.46% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.
- 7.2. During the year a sum of ₹ 24,97,23,000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2013 comes to ₹1,58,49,69,000/- . No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 18,52,08,418/- has been provided during the year which comes to approximately 13.87% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.



Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
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- 7.3. The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.
- 7.4. During the year a sum of ₹ 5,00,00,000/- has been received from Government of Jharkhand. No Interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on unsecured loans, we are unable to offer our Comments on correctness of interest provided.
8. Fixed Assets:
- 8.1. Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard -10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.
- 8.2. During the Financial year 2011-12 a sum of ₹ 27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper Documents / Title Deeds were not made available to us for verification.
- 8.3. Fixed Assets includes a sum of ₹1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.
- 8.4. No detail of addition to fixed assets and calculation sheet or any other record was available to verify the additions to fixed assets and correctness of depreciation charged. It has been noticed that 100% depreciation on fixed assets costing not more than ₹ 5000 has not been charged. It has also been noticed that no depreciation has been charged on additions to fixed assets in many cases of high value items.



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- 8.5. Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.
- 8.6. Fixed Assets also includes a sum of ₹ 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to ₹ 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increase the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.7. Fixed Assets also includes a sum of ₹1,23,71,057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.8. Fixed Assets also includes a sum of ₹72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is



Chief Engineer (Gen.)
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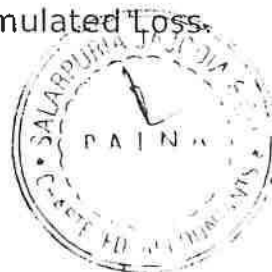
₹80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

- 8.9. Fixed Assets also includes a sum of ₹36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.10. Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.11. Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and ₹ 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial Year 2011-12 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.



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Chief Engineer (Elect.)
Bihar State Hydroelectric
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- 8.12. A sum of ₹ 9242/- has also been noticed as addition to fixed assets in the Financial Year 2011-12 under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.
- 8.13. Fixed Assets does not includes a sum of ₹ 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.
- 8.14. Fixed Asset does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses). Non-Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.15. Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project which is still under progress and no final bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in Overstatement of fixed assets by ₹ 15,03,46,125/- as well as ₹ 73,64,292/- of Loss for the year and Accumulated Loss and understatement of Capital work in Progress by ₹ 15,77,10,417/-.
- 8.16. Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.



Hay
Chief Engineer (B&C)
Bihar State Hydroelectric
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- 8.17. Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier years.
- 8.18. Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the current financial Year as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further No depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of Capital Work in Progress.
- 8.19. Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of Spares, Maintenance Expenses, etc., which was capitalised as Fixed Assets. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.20. Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric Equipment at Belsar, ₹64,80,000/- Electric Equipment at Alwar, ₹32,13,800/- Electric Equipment and ₹ 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years. It was noticed that capitalization of asset was made in earlier year without adjustment of advance



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Chief Engineer
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made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.

- 8.21. Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹62,779/- at Belsar, ₹187335/- at Arwal, ₹ 11263660/- at East Gandak, ₹2580820/- at Koshi ₹19800/- at Sone Eastern and ₹ 46952/- at shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

9. Capital Work in Progress:

- 9.1. Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to ₹ 1,36,69,74,071/- and Development Expenditure including borrowing cost amounting to ₹ 2,79,20,96,069/-. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922/- and ₹ 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.
- 9.2. Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation during the current



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Financial Year. Reason of negative balance could not be explained.

- 9.3. Capital Work-in-Progress includes both tangible and intangible assets amounting to ₹ 6435.83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (₹ 9717966/-), dewatering at Walidad (₹ 48,40,000/-), Excavation work in Progress (₹ 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.
- 9.4. In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up , could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.
- 9.5. During the current year a sum of ₹ 2,62,05,884/- related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development / activity were made on these Projects. Thus till now a sum of ₹ 5,90,26,969/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.
- 9.6. During the current year a sum of ₹ 53,44,194/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to allocate Head Office Expenses on these projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.



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- 9.7. We have noticed that in compliance of Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.
- 9.8. Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.
- 9.9. We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.
- 9.10. Capital-work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.
- 9.11. Capital Work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.
- 9.12. Capital Work in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in



Chief Engineer (Electrical)
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year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.

9.13. A sum of ₹ 52,48,548/- paid during the year as Consultancy to different parties for preparation of feasibility report and D.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.

10. Inventories:


10.1. It includes ₹ 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.

10.2. Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires *thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.*

10.3. *Inventories includes a sum of ₹ 23,696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹ 67,787/-. Considering it's future usability, in our opinion these should be charged to revenue.*

10.4. Against Opening Balance of stamps in hand amounting to ₹ 2,62,399/-, a sum of ₹ 3,48,595/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 4,11,105/- has been accounted but due to difference in opening balance book balance of ₹ 3,24,909/- has been shown. This has resulted in Understatement of stamp in hand by ₹ 86,196.00 and overstatement of expenses/loss.




Chief Engineer, (Elec.)
Bihar State Hydroelectric
Power Corporation Ltd.
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11. Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. *However, Partial Reconciliation made in F.Y 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to Kataiya Project, we are unable to express our opinion on it's realisability or adjustability.* This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtor.

12. Cash & Bank Balance:

12.1. Confirmation related to balance of ₹ 14,620/- shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being ₹ 3,00,14,620/-. Reconciliation Statement / Reason for such a huge difference was not produced before us.

12.2. Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years. In some cases Latest Bank Reconciliation Statement being balance tallied with Books of Accounts were not produced. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit were not recorded) are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
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- 12.3. *Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us* It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.
- 12.4. Against Opening Balance of stamps in hand amounting to ₹ 12,406/-, a sum of ₹ 9,003/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 9,283/- has been accounted but due to difference in opening balance book balance of ₹ 12,686/- has been shown. This has resulted in overstatement of stamp in hand by ₹ 3,403.00 and understatement of expenses/loss.
- 12.5. No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income/interest accrued.
- 12.6. Calculation sheet of interest provision was not available.
- 12.7. Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.
13. Loans & Advances:
- 13.1. Advance Recoverable in cash includes ₹ 46.55 crore advances to suppliers/contractors and ₹ 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance/ advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc, which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.



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- 13.2. Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206/-, Advance for Advertisement ₹ 3,15,555/-, Guest house Rent (Pre-Paid Expenses) 10,000/-, L.T.C Advance ₹ 56758/-, T.A. Advance ₹ 18,09,107/-, Legal Advance ₹14,97,116/-, Transfer Travelling Advance ₹ 73,222/-, Consultancy Advance ₹ 44,250/-, Temporary Advance ₹ 98,28,608/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.
- 13.3. Loans and Advances include a sum of ₹ 1,46,21,840/- towards advance to staff comprising ₹ 10,40,105/- towards Salary Advance, ₹ 42,821/- towards marriage advance, ₹3,73,326/- towards House Building Advance, ₹ 5,36,651/ towards Medical Advance, etc where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances.
- 13.4. Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source ,etc being ₹ 1,59,63,371/- considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non- refund could not be explained.
- 13.5. During the year a sum of ₹ 8,21,760/- has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹75,53,922/-. It seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹ 36,780/- received during the previous year not linked with proper account.
- 13.6. Advance for land acquisition amounting to ₹ 5,00,000.00 outstanding since long remains to be adjusted /recovered.
- 13.7. Loans and advances includes a sum of ₹ 43.17 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department, we are unable to offer our comments on realisibility of this amount and resulting loss.



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Sone Bhawan, Patna-1

- 13.8. Balances of Ranchi Project Office and Inter Unit current account to ₹ 3,98,884.87 outstanding since long remain to be reconciled.

14. Current Liabilities & Provisions:

- 14.1. Sundry Creditors amounting to ₹ 161.07 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.
- 14.2. Nature of ₹ 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.
- 14.3. Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No Expenses were recognised for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C. and which should have been charged to revenue. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by 1,94,224/-.
- 14.4. Current Liabilities include a sum of ₹ 4,90,432/-(including ₹ 1,79,304/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part -II of Schedule-VI to the Companies Act, 1956 , which requires Audit Fee payable to Statutory Auditors should be separately disclosed.
- 14.5. Current Liabilities include a sum of ₹ 13,92,198/- (Debit) being Grant in Aid receivable from Govt. of Bihar since long but it's nature and reason for outstanding since long time could not be explained to us.



Chief Engineer (Elect.)
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Power Corporation Ltd
Patna

14.6. Current Liabilities include a sum of ₹45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long. During the financial year 2011-12 a sum of ₹ 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back and hence loss for the year as well as liability is overstated to that extent.

15. Profit & Loss Account:

15.1. A sum of ₹ 5622020/- (P.Y. 3629730/-) was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and the amount was reimbursable to the Corporation but the same has been treated as expenses for the year, which resulted into overstatement of expenses as well as overstatement of Accumulated Loss by ₹ 9251750/- and understatement of Current Assets.

15.2. In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.

15.3. Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.

15.4. The Corporation was contributing to Life Insurance Policy for Gratuity Liability of it's Employees. During the Current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it. In absence of proper details about liability, we are unable to quantify the amount through which the Loss for the Year, Accumulated Loss and Liability were understated. Further no provisions were made for other terminal benefits.

15.5. Employer's Contribution to Provident Fund has not been shown separately(included in salary) as required by Part II of Schedule VI of the Companies Act,1956.



Ray
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

16. Deviation from Accounting Standards:

The Company has not followed the following applicable Accounting Standards issued by the Institute of Chartered Accountants of India in Preparation of Financial Statements: Accounting Standard-1 to the extent stated in Note 2.2 of Note No.-19 to the Accounts, Accounting Standard-2 related to Valuation of Inventories, Accounting Standard-3 related to Cash Flow Statement, Accounting Standard -4 related to Contingencies and Events occurring after Balance Sheet Date, Accounting Standard-10 related to Accounting for Fixed Assets, Accounting Standard -12 related to Accounting for Government Grants, Accounting Standard -15 related to Employee Benefits, Accounting Standard-16 related to Borrowing Cost, Accounting Standard-17 related to Segment Reporting, Accounting Standard-18 related to Related Party Disclosures, Accounting Standard-28 related to Impairment of Assets and Accounting Standard-29 related to Provisions, Contingent Liabilities and Contingent Assets.

17. Disclosures:

17.1. The Company has not separately disclosed additional informations in the Financial Statements as required by Notification No. GSR 494(E) dated 30 th October,1973 related to Sales, Employee Remuneration, Export Turnover, and other non monetary disclosures.

17.2. The management has not furnished the following information although required to be disclosed by way of a note to the accounts :

Claims against the Company not acknowledged as debt.

Estimated amount of contracts remaining to be executed on capital account and not provided for.

17.3. Particulars of Advances: As required by Schedule VI Part II of The Companies Act, 1956, the Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.




Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

18. As explained Kosi Kataiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferer related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.
19. Observations made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)

PATNA
The 19th day of August, 2020
UDIN:20012525AAAAAG1361

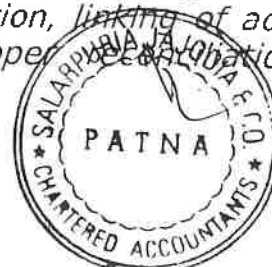

(CA H.K.P. Jain)
PARTNER
M.No.012525




Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED**ANNEXURE -A TO THE AUDITORS' REPORT ON THE ACCOUNTS FOR THE YEAR ENDED 31ST MARCH, 2013 (Referred to in paragraph '1' of our report of even date)**

1. In respect of its fixed assets:
 - a. The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.
 - b. As explained the fixed assets have not been physically verified by the management during the year.
 - c. No substantial part of fixed assets has been disposed off during the year affecting the going concern status of the company on this matter.
2. In respect of its inventories :
 - a. The Inventories have not been physically verified during the year by the management. Clause (b) and (c) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.
3. a. As explained to us, the Company has not granted any Loan to Companies, Firms or other Companies listed in the registers maintained under section 301 and to the Companies under the same management. As such clause b, c and d are not applicable for the Company. However, Register maintained under section 301 was not shown to us.
 - b. As explained to us, the Company has not taken any loan from the Companies firms or other parties listed in the Registers maintained under section 301. As such clause f and g are not applicable for the Company. However, Register maintained, if any, under section 301 was not shown to us.
4. *In our opinion, there are reasonable internal control system commensurate with the size of the unit and nature of its business relating to purchase of inventory and fixed assets and for sale of energy and other services, however it needs to be strengthened in the area such as Project Cost incurred vis- a- vis value of Project as per DPR and it's approval from the Government, linking of credit and debit balances appearing in Bank Reconciliation, linking of advances to Contractors / supplier with liabilities, proper reconciliation and adjustment of*



My Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Gone Bhawan, Patna

advances, awarding of Contract of Projects, distribution of Mobile phones to employees and it's control, etc. As per our test checks, there is no serious continuing failure to correct major weakness in internal control system.

5. a. As register maintained under section 301 of the Companies Act, 1956, was not available we are unable to state whether particulars of contracts or arrangements referred to in section 301 of the Companies Act, 1956 have been entered in the register required to be maintained under that section.
- b. For the reason stated in sub-paragraph (a) above we are unable to state whether transactions made in pursuance of contracts or arrangements entered in the register maintained under section 301 of the Companies Act, 1956 have been made at prices which are reasonable having regard to prevailing market prices.
6. The Company has not accepted deposits from the public within the meaning of Section 58A and 58 AA or any other relevant provisions of the Companies Act, 1956 and the rules framed there under.
7. The company has engaged a firm of Chartered Accountants to get annual account prepared and signed with report thereon. Internal audit should be carried out throughout the financial year requiring periodical reporting to enable the management to take corrective measure in time where ever required.
8. As explained to us, matter related to maintenance of cost records is not applicable to this company in view of the nature of its business.
9. (a) In absence of relevant returns and records it is not possible to comment upon regular deposit of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2013 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of Investor Education and Protection Fund, Custom Duty, Excise Duty and Cess in view of its nature of business
- (b) For the reason stated in sub-para (9)(a) above, it is also not possible to mention the statutory dues of Sales Tax/ Income Tax/ Custom Duty/ Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.



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Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bihar, Patna

10. The Accumulated loss of the Company as on 31 st March, 2013 exceed 50% of its net worth. The company has incurred cash losses during the current financial year covered by our audit and also in the immediately preceding financial year.
11. Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, or debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.
12. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities.
13. In our opinion, the Company is not a chit fund or a Nidhi /Mutual benefit fund/society. Therefore, clause 4(xiii) of the Companies (Auditor's Report) Order, 2003 is not applicable to the Company.
14. In our opinion and according to the information and explanations given to us, the Company is not a dealer or trader in shares, securities and debentures and there is no investment by the company.
15. In our opinion and according to the information and explanations given to us, the Company has not given guarantees for loans taken by others from Banks or financial institutions.
16. As explained by the company, the term loans received from Government of Bihar have been applied for the purpose for which they were obtained, subject to para 1 to 19 of the Audit Report.
17. According to the information and explanations given to us and on an overall examination of the balance sheet of the company, we state that the no funds raised on short-term basis have been used for long term investment.
18. During the year the Company has not made any preferential allotment of shares to parties and companies covered in the register maintained under Section 301 of the Companies Act, 1956.
19. The Company has not issued any debentures.
20. The Company has not raised any money during the year by public issue.



May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Bane Bhawan, Patna

SALARPURIA JAJODIA & CO

Chartered Accountants

209, Emarat Firdaus

Exhibition Road, Patna-01

Tel: 2320277 (O)

2321589, 2283411 (R)

- 2.1. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
FRN 001762C with ICAI

PATNA

The 19th day of August, 2020

(CA H.K.P. Jain)

PARTNER

M.No.012525



May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2013

PARTICULARS	NOTE	As at 31.03.2013	As at 31.03.2012
I. EQUITY & LIABILITIES			
1. SHAREHOLDERS' FUND			
Share Capital	1	99,04,00,000.00	99,04,00,000.00
Reserves and Surplus	2	(1,51,23,61,383.36)	(1,22,60,46,899.76)
2. NON CURRENT LIABILITIES			
a. Long Term Borrowings	3	7,34,11,99,427.22	6,46,66,33,057.22
3. CURRENT LIABILITIES			
a. Trade Payables (Dues of Micro Enterprises & Small Enterprises -Nil)	4	1,61,06,813.91	1,00,65,818.91
b. Other Current Liabilities	5	10,41,85,123.57	10,57,96,704.82
		<u>6,93,95,29,981.34</u>	<u>6,34,68,48,681.19</u>
II. ASSETS			
1. NON CURRENT ASSETS			
Fixed Assets			
Gross Block		2,66,91,40,924.08	2,26,61,96,096.20
Less : Depreciation		90,28,54,038.88	81,00,08,493.88
Net Block	6	1,76,62,86,885.20	1,45,61,87,602.32
Capital work-in-progress	7	4,15,90,70,140.08	3,76,39,40,523.91
		<u>6,93,95,29,981.34</u>	<u>6,34,68,48,681.19</u>
2. CURRENT ASSETS			
Inventories	8	1,25,39,239.99	1,24,76,730.20
Trade Receivables	9	21,14,95,551.00	16,54,74,929.00
Cash and Cash Equivalents	10	28,57,60,532.14	37,06,20,377.98
Short Term Loans and Advances	11	50,43,77,632.93	57,81,48,517.78
		<u>6,93,95,29,981.34</u>	<u>6,34,68,48,681.19</u>

Significant Accounting Policies and
Notes on Accounts :

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Khushboo
(Khushboo)
Company Secretary

Director

Al
(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

H.K.P.
(CA H.K.P. Jain)
MRN 012525
(Partner)

Place: Patna
The 19 day of Aug, 2013



H.K.P.
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
 Sone Bhawan, Birchand Patel Marg, Patna
STATEMENT OF PROFIT & LOSS FOR THE YEAR ENDED 31ST MARCH, 2013

PARTICULARS	NOTE	Current Year ₹	Previous Year ₹
INCOME			
Revenue from Operations	12	12,99,08,297.00	10,20,02,808.00
Other Income	13	1,12,31,320.75	4,50,89,371.13
TOTAL REVENUE		14,11,39,617.75	14,70,92,179.13
EXPENDITURE			
Cost of material consumed	14	2,28,81,375.00	3,28,14,225.00
Employee benefit expenses	15	7,89,83,224.00	7,89,55,752.46
Other Expenses	16	2,82,32,009.35	59,40,536.94
TOTAL EXPENDITURE		13,00,96,608.35	11,77,10,514.40
Earning before interest and tax		1,10,43,009.40	2,93,81,664.73
Financial costs	17	21,02,95,859.00	31,14,77,486.00
Depreciation & Amortisation Exp.	18	9,20,61,634.00	7,56,76,215.73
Profit/(Loss) before tax		(29,13,14,483.60)	(35,77,72,037.00)
Tax expense:			
Current tax		-	-
Deferred tax		-	-
Total Tax Expenses		-	-
Profit/(Loss) after tax		(29,13,14,483.60)	(35,77,72,037.00)
Earning per equity share			
Basic & Diluted (Nominal value per share of ₹ 1000/-)		(294.14)	(361.24)
Weighted Average Number of Equity Shares (Basic & Diluted)		9,90,400.00	9,90,400.00

Significant Accounting Policies and Notes on Accounts : 19

(Khushboo)
Company Secretary

Director

(Alok Kumar)
Managing Director

In terms of our Report of even date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

Place: Patna
The 19th day of August, 2013

(CA H.K.P. Jain)
MRN 012525
(Partner)



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Al
Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-I

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

NOTES FORMING PART OF BALANCE SHEET AS AT 31 ST MARCH, 2013

Note: 1

SHARE CAPITAL

Particulars	As at 31st March, 2013		As at 31st March, 2012	
	Number of share	Amount ₹	Number of share	Amount ₹
a. Authorised Equity shares of Rs.1000/- each	1000000	1,00,00,00,000.00	1000000	1,00,00,00,000.00
b. Issued, Subscribed and fully paid up Equity shares of Rs.1000/- each	990400	99,04,00,000.00	990400	99,04,00,000.00
	990400	99,04,00,000.00	990400	99,04,00,000.00

c. Share Capital Reconciliation

Particulars	As at 31st March, 2013		As at 31st March, 2012	
	Number of Shares	Amount in ₹	Number of Shares	Amount in ₹
Opening Balance	990400	99,04,00,000.00	990400	99,04,00,000.00
Add:- Fresh Issue				
Closing Balance at the year end	990400	99,04,00,000.00	990400	99,04,00,000.00

d. Details of shares held by shareholders holding more than 5% of the aggregate shares in the company.

Name of Shareholders	As at 31st March, 2013		As at 31st March, 2012	
	Number of Shares	% of Holding	Number of Shares	% of Holding
Governor of Bihar	683371	69.00%	683371	69.00%
Governor of Jharkhand	307023	31.00%	307023	31.00%

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

Al
Bihar State Hydro Electric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



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Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
NOTES FORMING PART OF BALANCE SHEET AS AT 31 ST MARCH, 2013

PARTICULARS	AS AT 31.03.2013	AS AT 31.03.2012
NOTE NO.-2	Amount in ₹	Amount in ₹
RESERVES AND SURPLUS		
A GOVERNMENT GRANT		
Capital Subsidy		
As per last account	22,06,58,000	20,84,08,000
Addition during the year	50,00,000	1,22,50,000
Total A	22,56,58,000	22,06,58,000
B. Profit & Loss Account		
Opening Balance	(1,44,67,04,900)	(1,08,89,32,862.76)
Profit/ (Loss) for the Year	(29,13,14,484)	(35,77,72,037)
Total B	(1,73,80,19,383)	(1,44,67,04,900)
GRAND TOTAL (A+B)	(1,51,23,61,383)	(1,22,60,46,900)

NOTE : 3

A Long Term Borrowings		
From Government of Bihar		
Principal	1,97,08,99,000.00	1,82,72,29,000.00
Interest accrued	3,23,50,63,719.22	2,98,90,98,707.22
	5,20,59,62,719.22	4,81,63,27,707.22
B From Government of Jharkhand		
Principal	5,00,00,000.00	-
Interest accrued	-	-
	5,00,00,000.00	-
C From Government of Bihar under RIDF (NABARD) Scheme		
Principal	1,58,49,69,000.00	1,33,52,46,000.00
Interest accrued	50,02,67,708.00	31,50,59,290.00
	2,08,52,36,708.00	1,65,03,05,290.00
TOTAL (A+B+C)	7,34,11,99,427.22	6,46,66,33,057.22

Notes :

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2009-10 loan of Rs. 16,64,60,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Khushboo
Company Secretary
 Bihar State Hydro Electric
 Power Corp. Ltd.
 PATNA

My
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Patna

dl
Managing Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 5 During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 6 During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 7 During the Year 2011-12 Loan of Rs. 336342000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 10 new projects and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 8 During the year 2011-12 loan of Rs. 19607000 received from Government of Bihar for 2 new projects namely Sipha and Dehra and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 9 During the Year 2012-13 Loan of Rs. 109924000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 04 new projects namely Bathnaha, Nirmali, Sipha and Dehri Escape Channel and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 10 During the Year 2012-13 Loan of Rs. 139799000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 02 new projects namely Arrarghat and Dehri Escape Channel and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 11 During the year 2012-13 loan of Rs. 33670000.00 received from Government of Bihar for Arrarghat Project and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 12 During the year 2012-13 loan of Rs. 11000000.00 received from Government of Bihar for Dagmara Project and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

NOTE :4**TRADE PAYABLES**

Total outstanding dues of Micro Enterprises and
Small Enterprises
Other Trade Payables
Sundry Creditors

TOTAL

1,61,06,813.91

1,61,06,813.91

1,00,65,818.91

1,00,65,818.91

Khushboo
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Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE : 5

OTHER CURRENT LIABILITIES

Liabilities for expenses	3,10,69,950.71	2,20,72,179.71
Other Liabilities	27,39,668.23	46,95,228.48
Income Tax deducted at source	15,41,364.59	(2,31,279.42)
Security Deposits	5,03,08,382.99	4,50,64,323.99
Deductions from Contractors	2,45,18,035.77	2,36,79,874.77
Royalty	64,35,550.75	64,35,550.75
Sales Tax	(2,72,17,381.07)	(1,11,15,070.07)
VAT	-	3,48,038.00
Service Tax	20,600.00	20,600.00
Grant in Aid	(13,92,198.00)	(13,92,198.00)
Irrigation Department	1,15,00,000.00	1,15,00,000.00
Interest accrued - PFC Loan	45,31,253.00	45,31,253.00
Group Gratuity Payable	1,77,421.00	2,28,828.00
Suspense	(47,524.40)	(47,524.40)
TOTAL	10,41,85,123.57	10,57,96,704.82

Krushna
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Sone Bihar, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE-8

Inventories

Capital Stores	67,78,250.80	67,78,250.80
Materials issued to contractors	53,44,397.56	53,44,397.56
Stationery Items	3,24,908.84	2,62,399.05
Exide Battery	23,895.68	23,895.68
Stock Suspense	67,787.11	67,787.11
TOTAL	1,25,39,239.99	1,24,76,730.20

NOTE-9

Trade Receivables

(Unsecured, considered good)

Debts outstanding for a period exceeding six months

Other debts	8,57,95,367.00	6,68,94,810.00
TOTAL	12,57,00,184.00	9,85,80,119.00
	21,14,95,551.00	16,54,74,929.00

NOTE-10

Cash and Cash Equivalents

Balance with Scheduled Banks in Current Account	8,91,68,229.25	3,11,65,677.93
Short Term deposits with bank	1,38,06,739.87	15,66,07,896.83
PL Account with SBI Secretariat Branch	14,620.00	14,620.00
Cash on hand	1,60,257.02	2,21,777.22
Cheques in hand	18,25,98,000.00	18,25,98,000.00
Stamps in hand	12,686.00	12,406.00
TOTAL	28,57,60,532.14	37,06,20,377.98

NOTE-11

Short Term Loans & Advances

(Unsecured, considered good)

Advances receivable in cash or in kind

Advance - Tax Deposit

Recoverables

Prepaid Expenses - Insurance

Receivables- Energy Dept. Govt of Bihar

Interest Accrued on Fixed Deposits

Security Deposit - BSEB (TB)

Security Deposit - (Telephone)

Advance for land aquisition

Ranchi Project Office

Inter Unit Current Account

	48,01,93,942.83	54,09,00,583.68
	1,69,20,851.96	1,59,63,370.96
	17,65,524.17	17,65,524.17
	10,000.00	10,000.00
	43,17,462.10	43,88,857.10
	2,58,967.00	1,42,09,297.00
	12,000.00	12,000.00
	5,00,000.00	5,00,000.00
	2,38,066.00	2,38,066.00
	1,60,818.87	1,60,818.87
TOTAL	50,43,77,632.93	57,81,48,517.78

Khushboo
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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE-12

Revenue from Operations

Sale of Electricity

TOTAL

12,99,08,297.00

12,99,08,297.00

10,20,02,808.00

10,20,02,808.00

NOTE-13

Other Income

Interest - Fixed Deposits

Interest - Other

Interest - House Building Advance

Interest - Marriage Advance

Interest - Motor Cycle Advance

Recovery of Electricity

House Rent

Sale of Tender Paper

Miscellaneous Income

TOTAL

75,59,098.75

11,94,467.00

4,57,107.00

6,057.00

7,750.00

2,70,651.00

1,45,127.00

7,76,000.00

8,15,063.00

1,12,31,320.75

4,26,21,380.13

92,040.00

4,84,840.00

6,003.00

26,437.00

1,50,726.00

90,449.00

15,72,750.00

44,746.00

4,50,89,371.13

NOTE-14

Cost of material consumed

Operation and Maintenance of Power House

Operation and Maintenance

2,28,81,375.00

2,28,81,375.00

3,28,14,225.00

3,28,14,225.00

NOTE-15

Employee Benefit Expenses

Managing Director's Remuneration

Salary & Allowance

DLI and P.F. Administrative charges

Gratuity Premium under L.I.C. Scheme

19,37,796.00

7,95,91,198.00

5,13,926.00

8,20,42,920.00

15,90,787.00

7,83,52,110.46

7,80,404.00

23,72,798.00

8,30,96,099.46

Transfer to Capital Work in Progress (Appendix-1)

(30,59,696.00)

Total 7,89,83,224.00

(41,40,347.00)

7,89,55,752.46

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NOTE-16

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Other Expenses

Uniform and Liveries	1,20,696.00	78,967.00
Reimbursement of Medical & Educational Expenses	8,11,945.00	7,08,088.00
Account Computerisation	8,08,992.00	8,31,245.00
Rent	41,64,995.00	36,10,032.00
Electricity	72,37,288.00	17,16,925.00
Travelling & Conveyance	35,51,634.00	21,83,882.00
Petrol, Oil & Lubricants	24,97,381.00	10,35,933.70
Insurance	1,31,596.00	-
Advertisement	42,66,704.00	8,68,014.00
Telephone & Telex Charges	7,43,561.12	6,94,709.44
Printing & Stationary	4,23,963.21	6,32,680.10
Postage	2,945.00	2,522.00
Conference and Seminar	32,000.00	-
Bank Charges	13,290.00	1,439.00
Repairs - Vehicles	1,13,573.00	2,01,754.00
Repairs - Building	1,15,094.00	9,73,114.00
Repairs - Plant	1,76,74,713.00	1,27,25,834.00
Repairs - Other	13,50,753.00	10,85,913.00
Hire & Rental Charges	35,61,131.00	36,31,312.00
Licence & Registration Fee	22,010.00	65,130.00
Consultancy/Legal & Professional fees	1,45,89,159.00	1,09,21,201.00
D.P.R Expenses	62,47,020.00	7,85,915.00
Statutory Auditors Fee	2,63,574.00	91,850.00
Internal Auditors Fee	-	44,944.00
Tax Audit Fees	-	22,000.00
Entertainment	8,58,366.00	5,03,095.00
Survey & Investigation	62,58,336.00	27,56,154.00
News Paper	5,891.00	-
Transportation Charges	93,991.00	47,900.00
Grant for Purchase of Computer	87,728.00	-
Donation & Subscription	3,20,500.00	6,65,000.00
Plantation	13,61,259.00	13,61,259.00
wages to security	36,44,087.00	-
Testing & Commissioning	15,40,558.02	1,97,658.00
Miscellaneous Expenses	59,61,089.00	58,09,702.70
	8,88,75,822.35	5,42,54,170.94

Transfer to Capital Work in Progress (Appendix-1)

Total

(6,06,43,813.00)

2,82,32,009.35

(4,83,13,634.00)

59,40,536.94

NOTE-17

Interest & Finance ChargesInterest on Term Loans

Government of Bihar

Interest on PFC Loan

Government of Bihar -RIDF (NABARD)

24,59,64,952.00

28,40,829.00

18,52,08,418.00

43,40,14,199.00

(22,37,18,340.00)

21,02,95,859.00

24,08,65,633.00

13,62,00,000.00

10,97,89,736.00

48,68,55,369.00

(17,53,77,883.00)

31,14,77,486.00

Transfer to Capital Work in Progress (Appendix-1)

NOTE-18

Depreciation

As per Note 6

Transfer to Capital Work in Progress (Appendix-1)

9,28,45,545.00

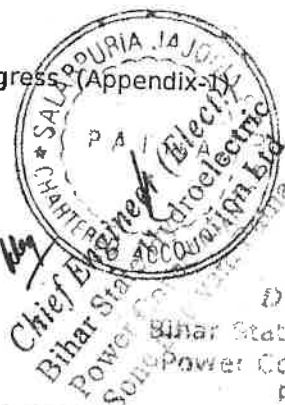
(7,83,911.00)

9,20,61,634.00

7,64,60,126.73

(7,83,911.00)

7,56,76,215.73

Khushboo
Company SecretaryBihar State Hydro Electric
Power Corp. Ltd.
PATNA

Director

Bihar State Hydroelectric
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PATNAManaging Director
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PATNA

FIXED ASSETS
BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sl. NO.	PARTICULARS	GROSS BLOCK				DEPRECIATION				NET BLOCK	
		As at 01.04.2012	Addition during the year	Sales/ Adj.	As at 31.03.2013	As at 31.03.2012	Depreciation for the Year	Sales/ Adj.	As at 31.03.2013	As at 31.03.2012	As at 31.03.2012
		₹	₹	₹	₹	₹	₹	₹	₹	₹	₹
1	Land - Freehold	2,04,11,326.53	-	-	2,04,11,326.53	-	-	-	-	2,04,11,326.53	2,04,11,326.53
2	Land - Leasehold	1,85,800.00	-	-	1,85,800.00	-	-	-	-	1,85,800.00	1,85,800.00
3	Buildings - Residential	1,83,03,457.67	-	-	1,83,03,457.67	48,56,720.82	2,98,347.00	-	51,55,067.82	1,31,48,389.85	1,31,48,389.85
4	Buildings - Non Residential	1,54,97,300.09	-	-	1,54,97,300.09	67,20,862.13	4,68,019.00	-	71,88,881.13	83,08,418.96	83,08,418.96
5	Buildings - Sheds	7,29,825.55	-	-	7,29,825.55	-	-	-	-	-	-
6	Roads & Bridges	4,36,71,017.07	-	-	4,36,71,017.07	2,17,07,340.73	13,18,865.00	-	2,30,26,405.73	2,13,52,152.04	2,13,52,152.04
7	Water Supply Installation	1,00,280.36	-	-	1,00,280.36	1,11,425.44	6,469.00	-	1,17,894.44	72,385.92	72,385.92
8	Electric Installation	20,59,84,216.70	4,58,19,397.00	-	25,18,03,613.70	16,39,98,107.14	90,13,996.00	-	17,30,40,103.14	7,87,63,510.56	7,87,63,510.56
9	Plant & Machinery	90,17,82,789.15	12,35,66,216.88	-	1,02,53,49,006.03	29,39,40,197.82	3,71,77,605.00	-	33,11,17,802.82	69,42,31,203.21	69,42,31,203.21
10	Power House	1,01,93,08,569.96	23,23,90,999.00	-	1,25,16,99,568.96	29,05,87,354.26	4,28,63,927.00	-	33,34,51,281.26	91,82,48,267.70	91,82,48,267.70
11	Furniture & Fixtures	35,91,861.11	27,198.00	-	36,19,059.11	23,12,556.31	1,96,124.00	-	25,08,680.31	11,10,378.80	11,10,378.80
12	Office Equipments	65,13,783.59	10,89,707.00	2,230.00	76,01,260.59	28,89,836.91	3,27,899.00	-	32,17,735.91	43,83,524.68	43,83,524.68
13	Other Equipments	2,29,31,864.94	156.00	-	2,29,32,020.94	1,76,49,952.71	5,04,354.00	-	1,81,54,306.71	47,77,714.23	47,77,714.23
14	EPDM Machine	5,40,350.00	-	-	5,40,350.00	2,15,282.65	25,667.00	-	2,40,949.65	2,99,400.35	2,99,400.35
15	Books	3,87,398.46	47,279.00	895.00	4,33,782.46	1,55,819.39	18,970.00	-	1,74,789.39	2,58,993.07	2,58,993.07
16	Vehicles	39,45,504.46	-	-	39,45,504.46	24,60,543.60	2,92,906.00	-	27,53,449.60	11,92,054.86	11,92,054.86
17	Receives	11,223.14	-	-	11,223.14	-	-	-	-	4.94	4.94
18	Computers	20,88,941.52	7,000.00	-	20,95,941.52	16,12,799.40	2,98,088.00	-	19,15,887.40	1,80,054.12	1,80,054.12
19	Other Assets	1,20,585.90	-	-	1,20,585.90	45,430.82	4,309.00	-	49,759.82	70,826.08	70,826.08
	Total :-	2,26,61,96,096.20	40,29,47,952.88	3,125.00	2,66,91,40,924.08	81,00,04,493.58	28,45,545.00	-	90,28,54,038.88	1,76,62,86,885.20	1,45,61,87,602.32
	Previous Year :-	2,07,03,51,813.01	19,58,47,963.19	3,680.00	2,26,61,96,096.20	72,45,48,367.15	2,64,60,126.73	-	81,00,08,493.88	1,45,61,87,602.32	1,45,61,87,602.32

Khushboo
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NOTE-7

CAPITAL WORK IN PROGRESS

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sl. NO.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
A.	Assets under construction/installation				
1	Building	76,51,514.21	-	-	76,51,514.24
2	Generating Equipments	12,39,66,561.89	-	-	12,39,66,561.89
3	Power House	13,93,15,147.11	-	-	13,93,15,147.11
4	Transformer (Sub-Station Equipments)	52,36,595.73	-	-	52,36,595.73
5	Auxiliary & Ancillary Equipments	4,09,542.00	-	-	4,09,542.00
6	Road & Bridges	90,67,794.41	-	-	90,67,794.41
7	Water Supply Installation	11,64,233.42	-	-	11,64,233.42
8	Intake Gates	58,12,325.74	-	-	58,12,325.74
9	Generating Set	1,14,594.24	-	-	1,14,594.24
10	Expenses on Investigation	5,52,005.05	-	-	5,52,005.05
11	Power/Esc. Channel	3,75,24,050.13	-	-	3,75,24,050.13
12	Excavation Work-in-Progress	2,43,680.00	-	-	2,43,680.00
13	Transmission System	1,00,16,050.09	-	-	1,00,16,050.09
14	Fencing Wall	22,724.00	-	-	22,724.00
15	Rock Excavation Allow Pen Stock	58,89,944.20	-	-	58,89,944.20
16	Tail & Tunnel	1,72,93,114.70	-	-	1,72,93,114.70
17	Fabrication Erection	2,56,47,213.00	-	-	2,56,47,213.00
18	Construction of Pen Stock	5,87,542.00	-	-	5,87,542.00
19	Plantation	54,978.00	-	-	54,978.00
20	Micro Hydle Set	8,14,029.00	-	-	8,14,029.00
21	Dewatering of Pit	97,17,966.00	-	-	97,17,966.00
22	Construction of Store & Godown	7,30,116.00	-	-	7,30,116.00
23	Designing & Drawing	4,65,500.00	-	-	4,65,500.00

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Sone Bhawan Patna-I

NOTE-7
CAPITAL WORK IN PROGRESS

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sl. NO.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
1	Land Acquisition	43,78,205.00	-	-	43,78,205.00
	AMETHI				
2	Power House(Amethi)	2,84,60,751.45	3,31,277.00	-	2,87,92,028.45
3	Construction of E/M Amethi	2,22,84,591.28	1,94,278.00	-	2,24,78,869.28
4	Construction of Switchyard (Amethi)	-	2,80,250.00	-	2,80,250.00
5	Inst. of Non Residential Building (Amethi)	-	12,85,605.00	-	12,85,605.00
6	Electric Equipment (Amethi)	-	13,15,318.00	-	13,15,318.00
	ARRAHAT				
7	Power House - Arrahat	-	27,72,200.00	-	27,72,200.00
	ARWAL				
8	Construction of E/M Arwal	-	59,670.00	-	59,670.00
9	Power House (Arwal)	-	2,22,073.00	-	2,22,073.00
10	Electric Equipment(Arwal)	(43,30,311.00)	-	-	(43,30,311.00)
11	Fabrication(Arwal)	(8,71,981.00)	-	-	(8,71,981.00)
12	Switchyard(Arwal)	-	-	-	-
	BEL SAR				
13	Power House(Belsar)	4,55,69,725.00	-	4,55,69,725.00	-
14	Construction of E/M Belsar	3,00,48,605.32	-	3,00,48,605.32	-
15	Electric Equipment (Belsar)	-	-	-	-
16	Switchyard(Belsar)	40,014.00	-	99,76,904.00	(99,76,904.00)
				40,014.00	-

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NOTE-2

CAPITAL WORK IN PROGRESS

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sl NO.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
1	JALIM GHAGH				
1	Power House (Jalim)	1,93,06,480.00			1,93,06,480.00
	RAJPUR				
1	Plant & Machinery (Rajapur)	30,14,184.00			30,14,184.00
	LGP				
1	Power House (LGP)	1,42,40,389.43			1,42,40,389.43
	RAMPUR				
1	Power House (Rampur)	1,41,62,608.73			1,41,62,608.73
	NATWAR				
1	Power house (Natwar)	1,44,21,149.00			1,44,21,149.00
1	Wind Crane (Natwar)	14,26,000.00			14,26,000.00
	NINDI				
1	Power House (Nindi)	8,52,489.00			8,52,489.00
	PHARMA				
1	Power House (Pharma)	2,70,75,398.00			2,70,75,398.00
	RAJPUR				
1	Power House (Rajapur)	4,26,14,229.00			4,26,14,229.00

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PATNA



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PATNA

NOTE-2
CAPITAL WORK IN PROGRESS

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sl. No.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
	SDP				
	Power House (SDP)	2,32,60,103.66			2,32,60,103.66
	DEHRA				
	Cost of EM-Dehra	-	2,11,68,955.00		2,11,68,955.00
	Power House (Dehra)	1,43,33,282.00	1,88,83,783.00		3,32,17,065.00
	TEJPURA				
	Electric Installation (TB)	-	2,45,700.00		2,45,700.00
	Power House (TB)	10,86,354.00			10,86,354.00
	TEJPURA				
	Power House (Tejpura)	5,86,89,808.00			5,86,89,808.00
	Transmission Line-Tejpura	1,88,000.00			1,88,000.00
	Switchyard (Tejpura)	22,13,314.00			22,13,314.00

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Sone Bhawan

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE-7
CAPITAL WORK IN PROGRESS

Sl. No.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
	WALIDAD				
5	Power House(Walidad)	2,40,94,612.00			2,40,94,612.00
57	Transmission Line (Walidad)	-	14,24,322.00		14,24,322.00
58	Construction of Electric Equipment (Walidad)	1,48,15,567.72			1,48,15,567.72
	BARBAL				
6	Power House(Barbal)	2,11,51,377.00			2,11,51,377.00
	BATHNAHA				
61	Power House(Bathnaha)	3,34,20,444.00	2,82,92,713.00		6,17,13,157.00
	DAGMARA				
62	Const. of P.H - Dagmara	-	1,17,26,820.00		1,17,26,820.00
	MATHAULI				
63	Power House(Mathauli)	2,08,71,104.00	1,03,34,731.00		3,12,05,835.00
64	Const. of E/M Equipment (Mathauli)	-	53,64,785.00		53,64,785.00
65	Land-Mathauli	34,54,862.00			34,54,862.00
66	Construction of Power Chancel(Mathauli)	29,23,984.00	13,83,177.00		43,07,171.00
	NIRMALI				
67	Power House(Nirmali)	47,20,776.00	2,62,30,798.00		3,09,51,572.00
	SONE WESTERN				
68	Const. of power house (SW)	-	13,76,041.00		13,76,041.00

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE 2

CAPITAL WORK IN PROGRESS

Sl. NO.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
	SIPHA				
69	Const. of E/M (Shipha)	-	2,42,49,584.00		2,42,49,584.00
70	Power House(Sipha)	1,99,73,376.00	1,26,53,044.00		3,26,26,420.00
	KATANIA				
71	Power House(Katania)	2,97,19,632.00			2,97,19,632.00
	TRIVENI				
72	Land - Triveni	(10,19,922.00)			(10,19,922.00)
	SADANI				
73	Land - Sadani	12,70,800.00			12,70,800.00
	BARBAL				
74	Land-Barbal	51,47,640.00			51,47,640.00
	KATANYA				
75	Land-Katanya	27,19,273.00			27,19,273.00
	NIRMALI				
76	Const. of E/M of Equipment- Nirmali	-	42,64,000.00		42,64,000.00
77	Land-Nirmali	61,66,360.00	29,84,820.00		90,71,180.00
	BATHNAHA				

Krushna
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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE-2

CAPITAL WORK IN PROGRESS

Sl. No.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
70	Plant-Bathanaha	1,13,50,188.00	53,64,558.00		1,67,14,746.00
71	Construction of E/M (Bathanaha)	90,20,000.00	1,28,85,606.00		2,19,05,606.00
72	Tools & Plant-Bathanaha	50,903.00			50,903.00
	JAINAGRA				
81	Construction of E/M Jainagra	(1,03,73,276.00)			(1,03,73,276.00)
	NATWAR				
82	Electric Equipment(Natwar)		4,964.00		4,964.00
83	Const. of P.H (Natwar)		5,93,547.00		5,93,547.00
84	Construction of E/M Natwar	29,70,194.92			29,70,194.92
	PHARMA				
85	Construction of E/M Pharma	4,27,94,649.00	3,66,290.00		4,31,60,939.00
86	Const. of P.H (Pharma)		42,88,718.00		42,88,718.00
87	Switchyard(pharma)	2,56,500.00			2,56,500.00
	RAJAPUR				
88	Construction of E/M Rajapur	4,06,02,168.60			4,06,02,168.60
89	Tools & Plant-Rajpur	3,055.00			3,055.00
	RAMPUR				
90	Construction of E/M Rampur	1,12,67,111.00			1,12,67,111.00
	CHANDIL				

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE-7
CAPITAL WORK IN PROGRESS

Sl. NO.	PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
		₹	₹	₹	₹
91	Construction of E/M (Chandil)	7,58,49,673.58			7,58,49,673.58
	NORTH KOEL				
92	Construction of E/M (North Koel)	8,34,12,950.45			8,34,12,950.45
	TEJPURA				
93	Construction of E/M (Tejpura)	2,40,46,232.84	2,46,000.00		2,42,92,232.84
94	Const. of PH (Tejpura)		64,54,838.00		64,54,838.00
	Total A	1,24,54,40,855.93	20,71,68,463.00	8,56,35,248.32	1,36,69,74,070.61
	Previous Year	1,05,53,12,045.33	25,26,19,121.00	6,24,90,310.40	1,24,54,40,855.93
B. Development Expenditure					
		₹	₹	₹	₹
1	Project Report Survey & Consultancy Charges	1,64,77,053.46	0.00	0.00	1,64,77,053.46
2	Preliminary Expenses - Projects	9,25,45,064.82	17,42,467.00	15,10,020.00	9,27,77,511.82
3	New Project Expenses	5,03,546.00	0.00	0.00	5,03,546.00
4	Development Expenditure as per last account	63,27,03,539.38	0.00	0.00	63,27,03,539.38
5	Development Expenditure (Detail of addition given below)				
	Amethi	1,92,15,174.70	57,23,625.00		2,49,38,799.70
	Ararhat	-	44,79,128.00		44,79,128.00
	Barbal	99,85,875.00	83,26,564.00		1,83,12,439.00
	Bathnaha	8,39,73,432.00	5,94,72,816.00		14,34,46,248.00
	Belsar	3,23,72,363.56		3,23,72,363.56	-
	Chandil	44,33,24,625.02	3,73,26,367.20		48,06,50,992.22

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

WORK IN PROGRESS

PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
	₹	₹	₹	₹
Bhagatpura	8,65,92,710.89	4,05,63,217.00		12,71,55,957.89
Bhikhar	1,07,46,034.00	83,20,116.00		1,90,66,150.00
Bijha	39,57,964.00	1,00,98,901.00		1,40,56,865.00
Balunqagh	1,23,92,653.89	13,32,500.00		1,87,25,153.89
Katihar	1,20,89,176.00	95,59,204.00		2,16,48,380.00
Lower Chingari	1,08,00,411.47	7,42,760.00		1,15,43,171.47
Alakhnadi	68,17,024.00	71,13,595.00		1,39,30,619.00
Bandital (North kool)	68,97,24,019.30	1,85,39,046.55		70,82,63,065.85
Madwar	99,73,603.00	46,33,018.00		1,46,06,621.00
Biharbat	13,73,594.68	79,197.00		14,52,791.68
Bandhagagh	1,73,94,227.47	13,32,500.00		1,87,26,727.47
Bimari	3,08,59,344.00	3,30,22,922.00		6,38,82,266.00
Pharwa	3,20,24,883.53	91,11,227.00		4,11,36,110.53
Rajapur	2,13,75,766.73	61,11,716.00		2,75,07,502.73
Rampur	1,09,29,562.43	36,04,934.00		1,45,34,496.43
Radani	2,50,19,314.00	18,57,237.00		2,68,76,551.00
Dehra	42,48,962.00	1,11,45,934.00		1,53,94,896.00
Zone Eastern	24,23,286.91	0.00		24,23,286.91
Bagpara	4,76,51,520.65	1,30,55,973.00		6,07,07,493.65
Trina	7,20,10,436.70	51,98,240.30		7,72,08,677.00
Wahidat	2,18,17,671.73	63,26,789.00		2,81,44,460.73
Total of 5	1,72,40,93,637.66	30,70,97,577.05	3,23,72,363.56	1,99,88,18,851.15
Interest on Loan - Bihar Government	1,83,63,881.13	0.00		1,83,63,881.13
Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00		37,577.00
Interest on Loan - NABARD	2,68,94,138.00	0.00		2,68,94,138.00

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

IN PROGRESS

PARTICULARS	As at 01.04.2012	Addition during the year	Deduction during the year	As at 31.03.2013
	₹	₹	₹	₹
for from Head Office	27,97,453.53	0.00		27,97,453.53
and Maintenance of PH (SW)	40,83,777.00	0.00	13,61,259.00	27,22,518.00
(II)	2,51,84,99,667.98	30,88,40,044.05	3,52,43,642.56	2,79,20,96,069.47
plus Year	2,26,94,45,461.78	26,98,91,485.99	2,00,37,279.79	2,51,84,99,667.98
Capital Work in Progress (A+B)	3,76,39,40,523.91	51,60,08,507.05	12,08,78,890.88	4,15,90,70,140.08
Year (A+B)	3,32,47,57,507.11	52,17,10,606.99	8,25,27,590.19	3,76,39,40,523.91

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Statement of Development Expenditure (Net)

Appendix-1

Particulars	20012-13	2011-12
	₹	₹
INCOME		
Interest on FD	-	-
Sale of Tender Paper/BOQ	7,487.00	0.00
Interest on Motorcycle Adv	5,160.00	0.00
Interest on HBA	19,200.00	0.00
Recovery of Electricity	1,075.00	0.00
Recovery of House Rent	0.00	2,800.00
Intt. On Marriage advance	1,100.00	1,000.00
Recovery of Penalty	0.00	0.00
Misc Income	2,07,219.00	1,79,443.00
Total 1	2,41,241.00	1,83,243.00
EXPENDITURE		
Salary & Allowance	73,70,996.30	1,05,79,991.00
Wages Contingent Staff	23,96,013.00	1,76,169.00
Uniform & Liveries	13,874.55	0.00
Medical Expense	0.00	0.00
Survey & Investigation	0.00	0.00
Rent	1,17,000.00	83,800.00
Travelling & Conveyance	10,99,458.00	2,53,606.00
Telephone & Telex Charges	55,221.00	50,968.00
Printing & Stationary	3,77,236.00	22,476.00
Postage	1,186.00	3,407.00
Petrol, Oil & Lubricants	4,61,701.00	4,05,179.00
Electricity Charges	7,770.00	6,572.00
Bank Commission	0.00	0.00
Repairs & Maintenance	8,33,983.00	16,58,415.00
Transportation/Freight & Carriage Charges	9,930.00	20,550.00
Insurance	13,582.00	2,47,228.00
Life Charges of Vehicle	6,07,431.00	4,71,042.00
Preparation of DPR	15,44,706.00	0.00
Preparation of E-TDS	9,774.00	8,430.00
Consultancy/Legal Expenses	6,38,735.00	1,587.00
Entertainment	42,777.00	59,919.50
Testing	21,33,858.00	0.00
Newspaper	2,133.00	0.00
Rates & Taxes	0.00	0.00
Miscellaneous Expenses	13,95,693.20	5,26,056.00
Interest on Government of Bihar Loan (Note-17)	8,96,13,134.00	8,82,13,450.00
Interest on Government of Bihar Loan -RIDF (NABARD) (Note-17)	13,41,05,206.00	8,71,64,433.00
Other Expenses (HO) - Allocated (Note-16)	6,06,43,813.00	4,83,13,634.00
Salary Allocated - Other Projects (Note-15)	30,59,696.00	41,40,347.00
Depreciation Allocation (Note No.18)	7,83,911.00	7,83,911.00
Total 2	30,73,38,818.05	24,31,91,170.50
NET (2-1)	30,70,97,577.05	24,30,07,927.50

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE: 19

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHPCL") for the year ended March 31, 2013. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 1956 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

2.1. Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to comply with the mandatory Accounting Standards referred in Section 211(3C) of the Companies Act, 1956.

2.2. Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

2.3. Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

2.4. Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.5. Tangible Fixed Assets, Depreciation and Amortization:

Tangible Fixed assets are stated at cost of acquisition/construction less disposal/ depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

2.6 Capital Work in Progress

a. Capital work in progress includes:

- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production,
- ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
- iii. expenditure incurred on start-up and commissioning of the project, including expenditure incurred on test run, and
- iv. borrowing cost.

b. The advances given to the Contractors for "Turnkey Basis Projects" are progressively capitalised on the basis of the running bills submitted by the Contractors.

2.7 Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

2.10 Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

2.11. Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.

iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

2.12. Apportionment of Head Office Expenses

i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.

ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.

iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

2.13. Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

2.14. Taxes on Income

i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.

ii. In view of uncertainty of future taxable income no deferred tax resulting from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006.

2.15. Earnings Per Share

Basic earnings per share is computed by dividing the profit/ (loss) after tax by the weighted average of equity shares outstanding during the year.



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corp.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

4.16

Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. These are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

- 3 Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.
- 4 The Assets and Liabilities, if any, after takeover of management of Koshi Kataiya Unit is yet to be accounted for, i.e. the assets and Liabilities are yet to be handed over to the Corporation. However, major renovation expenses have been done by the Corporation during the year and Capitalised during the year.
- 5 Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.
- 6 Bank Accounts
 - 6.1 Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.
 - 6.2 Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements. Balance confirmations from banks remain to be obtained.
 - 6.3 It includes balances of inoperative accounts remain to be confirmed.
- 7 Capital Grant received from MNRE, New Delhi for New Projects has been directly credited to Capital Grant as per para 2.8 of the Accounting Policy. The Corporation has received Rs. 50.00 lakhs in the current Financial Year for new Projects undertaken by the Corporation.
- 8 There was no employee in the Corporation during the year getting remuneration exceeding Rs. 60,00,000/- p.a. or Rs. 5,00,000/- monthly (P.Y. Rs. 60,00,000/- per year or Rs. 5,00,000/- monthly) for a part of the year.



Khushha
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.

[Signature]
Director
Bihar State Hydro Electric
Power Corporation Ltd.

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Financial statements of the Company for the current financial Year were prepared first time as per Revised Schedule VI in accordance with Notification no. S.O. 447(E), dated 28-2-2011 [as amended by Notification No. F.No. 2/6/2008-CL-V, dated 30-3-2011] issued by the Ministry of Corporate Affairs and Guidance Note on Revised Schedule VI to the Companies Act, 1956 issued by the Institute of Chartered Accountants of India (together referred to as "Notifications"). However, segregation of Liabilities and Assets in to Current and Non- Current Liabilities and Assets along-with corresponding Previous year's figures were prepared by the management from books of accounts, other records and the Audited Financial Statements and relied upon by Auditor.

- 10 Final Settlement with Power Finance Corporation amounting to 1362.00 Lakhs has been treated as Interest as interest for Financial Year 2011-12.
 - 11 Interest on Short Term Deposits at Head Office has not been considered for Apportionment and allocation on the Projects.
 - 12 As per Notification No. GSR 829(E) issued by Department of Company Affairs the provisions of Section 274(1)(g) of the Companies Act, 1956 are not applicable to a Government Company.
 - 13 In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31 St March, 2013 did not exceed Rs. 50 Crores, Accounting Standard 03, 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.
 - 14 Amount of Contingent Liabilities not quantifiable on account of
 - tax demands including interest and penalties
 - penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities
 - 15 The material issued to contractors, claim recoverable, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.
 - 16 The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing
- Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.

AL
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 18 Since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
- 19 The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organization Act, 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final calculation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.
- 20 In the opinion of the Board and to the best of their knowledge belief, the value of realisation of current and other assets in the ordinary course of business will not be less than the amount at which they are stated in the Balance Sheet.
- 21 Treatment for Service Tax is as per opinion obtained by the Management from it's Service Tax Consultant.
- 22 Previous years Figures for Financial Year 2011-12 under old Schedule VI have been re-classified / re-arranged / re-stated and regrouped in line with Revised Schedule-VI to make them comparable with figures for current year being Financial Year 2012-13.

Khushboo
(Khushboo)
Company Secretary

Director

Al
(Alok Kumar)
Managing Director

Signed for identification only.
For Salarpuria Jajodia & Co
Chartered Accountants

Patna-800001.
the 19th day of August, 2020

(CA H.K.P. Jain)
Partner
Membership No: 012525.



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1

INDEPENDENT AUDITOR'S REPORT

We have audited the accompanying financial statements of Bihar State Hydroelectric Power Corporation Limited, which comprise the Balance Sheet as at March 31, 2014 and the Statement of Profit and Loss as at 31st March 2014 for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance and cash flows of the Company in accordance with the Accounting Standards referred to in sub-section (3C) of section 211 of the Companies Act, 1956 ("the Act"). This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements so that they give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



MS
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Opinion

Subject to our observations contained in paragraphs 3 to 20 and consequent impact thereof on the Loss, assets and liabilities for the items quantified in para no.6.1,7.1,7.2,7.4,8.3,8.5 to 8.21, 9,10,11,12.1,12.5, 13.2,13.3, 14 and 15 and our inability to quantify the impact of Loss, assets and liabilities in the other paras in the absence of proper information/ explanation and record at the end of the Company as stated in appropriate part of those paragraphs read together with "Significant Accounting Policies" in Note No. 19 and other Notes in "Notes on Accounts" in Note No. 1 to 18 and to the best of our information and according to the explanations given to us the financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India:

- (a) in the case of the Balance Sheet, of the state of affairs of the said Company as at March 31, 2014; and
- (b) in the case of the Statement of Profit and Loss, of the Loss for the year ended on that date; and

Report on Other Legal and Regulatory Requirements

1. As required by the Companies (Auditors' Report) Order, 2003 as amended by Companies (Auditor's Report) (Amendment) Order, 2004 issued by the Government of India in terms of Section 227(4A) of the Companies Act, 1956, and on the basis of such checks of the books and records of the Company as we considered appropriate and according to the information and explanations given to us, we annex hereto a statement in Annexure-A on the matter specified in paragraphs 4 & 5 of the said order, to the extent applicable to the Company of the company.
2. As required by section 227(3) of the Act, we report that:
 - a. we have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
 - b. As per information and explanations produced by the company, many high value transactions of transfer of fund from / to Auto Sweep Term Deposit Accounts to / from Bank account, Interest on Term Deposit, Receipt from Debtors / Bihar State Power Holding



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan Patna-1

Corporation, amount deducted by Bank towards TDS, Interest / Bank Charges debited by Bank not accounted in Bank Book and still outstanding in Bank Reconciliation Statement. Similarly, EMD refunded to Contractors were debited in different account and not adjusted with outstanding EMD Liability, Amount of Liability of Contractors credited in different account whereas advance to same contractor is outstanding in different account. Non-matching of Advance to Suppliers/ Contractors with Creditors accounts, Non-reconciliation and non-adjustment of resultant errors, if any, of very high value of such Debit/credit balances, non-maintenance of Age-Fixed Assets Register, etc. Also in many cases Closing balances reflected in books as on 31/03/2013 is different from opening balances reflected as on 01/04/2013 in cash in hand at Chandil Unit. Considering all these above and also as reported in para 4, para 9.2 and para 12.8 below, in our opinion proper books of account as required by law have not been kept by the Company so far as appears from our examination of those books;

- c. the Balance Sheet and the Statement of Profit and Loss dealt with by this Report are in agreement with the books of account ;
 - d. In our opinion, the Balance Sheet and Statement of Profit & Loss have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent as applicable and except as stated above as well as elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).
 - e. As referred in Note no. 19 para 18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
3. We have been informed that the Annual Accounts for the year ended 31 st March, 2011 and onwards have not been adopted by the Corporation in the Annual General Meeting. However, in view of instructions issued by the Comptroller and Auditor General of India vide circular No. 36-CA II / Co-Ordn / Actionable items of 2008-



Chief Engineer (Elect.)
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09/07-2009 dated 27.01.2009 the audit report is being released without previous year accounts being adopted in the Annual General Meeting of the Company.

4. Proper Books of accounts related to 5 units of Jharkhand (Jalimgarh, Lower Ghaghri, Netarhat, Nindigarh and Sadani) and 07 New Projects (Dehra, Sipha, Barbal, Dhaoba, Katni, Natwar and Mathauli) were not available for our verification. Transactions at these units during the year comprise only allocation of interest, head office expenses and depreciation.
5. Going Concern Assumption: The Accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.
6. Grant in Aid:
 - 6.1. During the year a sum of ₹ 6,73,50,000/- has been received under this head for projects making total of ₹ 29,30,08,000/- as on 31.03.2014. Necessary documents related to compliance of term of Conditions as provided in Sanction letters were not made available to us. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2.8 of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.
 - 6.2. A difference of ₹131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were noticed. Reason and Correctness of this difference has not been explained to us.
7. Unsecured Loan:
 - 7.1. During the year a sum of ₹ 16,00,00,000/- has been received from Government of Bihar against sanction of Rs. 21,00,00,000/- besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2014 comes to ₹ 213,08,99,000/-. No



Chief Engineer (Elect.)
Bihar State Hydroelectric
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Sone Bhawan, Patna.

letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 26,90,88,994/- has been provided during the year which comes to approximately 13.65% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.

7.2. During the year a sum of ₹ 34,22,07,000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2014 comes to ₹1,92,71,76,000/- . No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 22,40,43,877/- has been provided during the year which comes to approximately 14.14% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.

7.3. The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.

7.4. During the financial year 2012-13, a sum of ₹ 5,00,00,000/- has been received from Government of Jharkhand. No Interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on unsecured loans, we are unable to offer our Comments on correctness of interest provided.

8. Fixed Assets:

8.1. Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard -10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

on expenses incurred on such projects, if any, where title deed is not with the company.

- 8.2. During the Financial year 2011-12 a sum of ₹ 27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper Documents / Title Deeds were not made available to us for verification.
- 8.3. Fixed Assets includes a sum of ₹ 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.
- 8.4. No detail of addition to fixed assets and calculation sheet or any other record was available to verify the additions to fixed assets and correctness of depreciation charged. It has been noticed that 100% depreciation on fixed assets costing not more than ₹ 5000 has not been charged. It has also been noticed that no depreciation has been charged on additions to fixed assets in many cases of high value items.
- 8.5. Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.
- 8.6. Fixed Assets also includes a sum of ₹ 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to ₹ 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increase the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed



Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation Ltd.

assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

- 8.7. Fixed Assets also includes a sum of ₹1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.8. Fixed Assets also includes a sum of ₹72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is ₹80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.9. Fixed Assets also includes a sum of ₹36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.10. Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of



Handwritten signature
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

Accumulated Loss with consequential effect on charge of depreciation.

- 8.11. Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and ₹ 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial Year 2011-12 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.12. A sum of ₹ 9242/- has also been noticed as addition to fixed assets in the Financial Year 2011-12 under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.
- 8.13. Fixed Assets does not includes a sum of ₹ 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.
- 8.14. Fixed Asset does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non-Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.15. Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final



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Chief Engineer (Elect.)
Bihar State Hydroelectric
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Sone Bhawan, Patna-1

bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in Overstatement of fixed assets by ₹ 15,03,46,125/- as well as ₹ 73,64,292/- of Loss for the year and Accumulated Loss and understatement of Capital work in Progress by ₹ 15,77,10,417/-.

- 8.16. Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.
- 8.17. Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial year 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier years.
- 8.18. Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012-13 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further No depreciation were charged on these assets in



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Power Corporation Ltd.
Sone Bhawan, Patna-1

books of accounts. This has resulted in overstatement of fixed assets and also understatement of Capital Work in Progress.

- 8.19. Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of Spares, Maintenance Expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.20. Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric Equipment at Belsar, ₹ 64,80,000/- Electric Equipment at Alwar, ₹ 32,13,800/- Electric Equipment and ₹ 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It was noticed that capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.21. Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹ 62,779/- at Belsar, ₹ 187335/- at Arwal, ₹ 11263660/- at East Gandak, ₹ 2580820/- at Koshi ₹ 19800/- at Sone Eastern and ₹ 46952/- at shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.



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Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation

- 8.22. Fixed Assets includes a sum of ₹ 47,31,729/- under Electric Installation at Dehri Unit, being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It includes many items which are revenue in nature and should have been charged to revenue expenditure. It was also noticed that major part of capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.
- 8.23. Fixed Assets also includes a sum of ₹ 27,604/- under Office Equipment at Head Office during the Current Financial Year, which comprises of cost of Battery, Key Board, Pen Drive etc., which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
9. Capital Work in Progress:
- 9.1. Capital Work in Progress consists of Assets under construction / installation / acquisition amounting to ₹ 1,36,69,74,071/- and Development Expenditure including borrowing cost amounting to ₹ 2,79,20,96,069/-. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922/- and ₹ 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.



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- 9.2. Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation during the current Financial Year. Reason of negative balance could not be explained.
- 9.3. Capital Work-in-Progress includes both tangible and intangible assets amounting to ₹ 6435.83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (₹ 9717966/-), dewatering at Walidad (₹ 48,40,000/-), Excavation work in Progress (₹ 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.
- 9.4. In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up , could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.
- 9.5. During the Financial Year a sum of ₹ 2,49,46,865/- related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development / activity were made on these Projects. Thus till now a sum of ₹ 8,39,73,834/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.
- 9.6. During the current year a sum of ₹ 51,96,752/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to



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allocate Head Office Expenses on these projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.

- 9.7. We have noticed that in compliance of Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.
- 9.8. Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.
- 9.9. We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.
- 9.10. Capital-work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.
- 9.11. Capital Work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.



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- 9.12. Capital Work in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.
- 9.13. A sum of ₹ 52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and D.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.
- 9.14. Figures reflected in Financial Statements for Capital Work in Progress does not tally with Figures reflected in Head Office books in some cases. Also it does not tally with closing balance reflected in previous financial year.
- 9.15. Capital Work in Progress includes a sum of ₹ 2,83,91,502/- which has been reflected as the cost of Land after transfer of ₹1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque / refund of advances, Which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.
10. Inventories:
- 10.1. It includes ₹ 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.
- 10.2. Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires *thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and*



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in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.

- 10.3. *Inventories includes a sum of ₹ 23,896/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹ 67,787/-. Considering it's future usability, in our opinion these should be charged to revenue.*
- 10.4. *A difference of ₹ 86,196/- was noticed in the previous years in stationery in stock. During the current financial year no entry for purchase and consumption of stationary was passed under this account head. This has resulted in Understatement of stamp in hand by ₹ 86,196.00 excluding the value of stationery consumed during the current financial year out of opening stock and overstatement of expenses/loss.*
11. Sundry Debtors: *Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to Kataiya Project, we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtor. Further, in bank Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.*
12. Cash & Bank Balance:
- 12.1. *Confirmation related to balance on 28/03/2014 in Public Ledger Account No. 8448 was produced before us, which reflects that this account was not operated since 12/08/1988 and last balance was being ₹ 3,00,14,620/-, whereas ₹ 14,620/- shown in company books*



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on 28/03/2014. Reconciliation Statement / Reason for such a huge difference was not produced before us. A sum of ₹ 31,78,97,620/- transferred to this account on 31st March, 2014 but statement related Public Ledger Account was not produced before us.

- 12.2. Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years.
- 12.3. In Case of Operating Bank Accounts, in some cases latest Bank Reconciliation Statement being balance tallied with Books of Accounts were not produced before us. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit, TDS deducted by Bank, fund received from Sundry Debtor (South Bihar Power Distribution Company Limited), Bihar State Power holding Corporation) were not recorded and are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.
- 12.4. Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us. Also in Bank Reconciliation Statement a large number of high value transactions of transfer from Current Account to / from Auto Sweep Account from / to current account were noticed as un-responded by the Company. It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.
- 12.5. A difference of ₹ 3403/- was noticed in the previous years in stamp in hand. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. This has resulted in overstatement of stamp in hand by ₹ 3,403.00 excluding the value of stamp consumed during the current financial year out of opening stock and understatement of expenses/loss.
- 12.6. Calculation sheet of interest provision was not available.
- 12.7. Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.



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12.8. Cash in hand balance includes negative balance of ₹ 925/- at Chandil Unit. It clearly indicates that accounting entries were passed without considering the physical verification of assets as Cash in Hand cannot be negative. This has also resulted into understatement Cash and Bank Balance and overstatement of current liabilities.

12.9. No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income / interest accrued as well as balances in short term deposit.

13. Loans & Advances:

13.1. Advance Recoverable in cash includes ₹ 49.17 crore advances to suppliers/contractors and ₹ 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance / advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc, which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.

13.2. Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206/-, Advance for Advertisement ₹ 3,15,555/-, Guest house Rent (Pre-Paid Expenses) 10,000/-, L.T.C Advance ₹ 56,758/-, T.A. Advance ₹ 16,85,216/-, Legal Advance ₹14,89,691/-, Transfer Travelling Advance ₹ 69,372/-, Consultancy Advance ₹ 44,250/-, Temporary Advance ₹ 95,27,857/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.



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- 13.3. Loans and Advances include a sum of ₹ 1,34,15,973/- towards advance to staff comprising ₹ 9,74,918/- towards Salary Advance, ₹ 48,141/- towards marriage advance, ₹81,976/- towards House Building Advance, ₹ 4,02,710/- towards Medical Advance, etc where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances.
- 13.4. Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source, etc being ₹ 1,69,20,852/- considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non- refund could not be explained.
- 13.5. During the year a sum of ₹ 25,96,369/- has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹2,05,81,963/-. It seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹ 36,780/- received during the previous years not linked with proper account.
- 13.6. Advance for land acquisition amounting to ₹ 5,00,000.00 outstanding since long remains to be adjusted /recovered.
- 13.7. Loans and advances includes a sum of ₹ 43.17 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department, we are unable to offer our comments on realisibility of this amount and resulting loss.
- 13.8. Balances of Ranchi Project Office and Inter Unit current account to ₹ 3,98,884.87 outstanding since long remain to be reconciled.



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14. Current Liabilities & Provisions:

- 14.1. Sundry Creditors amounting to ₹ 158.59 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.
- 14.2. Nature of ₹ 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.
- 14.3. Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No Expenses were recognised for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C. and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by 1,94,224/-.
- 14.4. Current Liabilities include a sum of ₹ 4,90,432/- being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Years and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non- compliance of Schedule-III to the Companies Act,2013. Also the differential amount of Audit Fee for the Year has resulted into Understatement / Overstatement of Loss as well as Liability which are in absence of proper information cannot be quantified.



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- 14.5. Current Liabilities include a sum of ₹ 45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long. During the financial year 2011-12 a sum of ₹ 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back and hence loss for the year as well as liability is overstated to that extent.
15. Profit & Loss Account:
- 15.1. A sum of ₹ 13,07,870/- (P.Y. 56,22,020/-) was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and against which a sum of ₹ 10,94,92,500/- received during the year. The Expenses incurred on this project should have been adjusted with this amount along with the expenditure made under this project in earlier years total amounting to ₹ 1,05,59,620/- (amount adjusted and balance refunded in financial year 2020-21). but the same has been treated as expenses for the year, which resulted into overstatement of expenses as well as overstatement of Accumulated Loss by ₹ 1,05,59,620/- and understatement of Current Assets.
- 15.2. In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.
- 15.3. Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.
- 15.4. The Corporation was contributing to Life Insurance Policy for Gratuity Liability of it's Employees. During the Current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it. A sum of ₹ 13,41,873/- related to Calendar Year 2013 was debited under this account head which should have been charged to Prior Period Expenses. In absence of proper details about liability, we are unable to quantify the amount through which the Loss for the Year, Accumulated Loss and Liability were understated. Further no provisions were made for other terminal benefits.



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- 15.5. A sum of ₹ 54,62,759/- being the expenses related to Prior period were directly adjusted with Accumulated Loss without routing through Statement of Profit & Loss. This has resulted into understatement of Loss for the year.
- 15.6. No mercantile system of accounting was followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.
- 15.7. Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Part II of Schedule VI of the Companies Act,1956.
16. Deviation from Accounting Standards:
- 16.1 The Company has not followed the following applicable Accounting Standards issued by the Institute of Chartered Accountants of India in Preparation of Financial Statements: Accounting Standard-1 to the extent stated in Note 2.2 of Note No.-19 to the Accounts, Accounting Standard-2 related to Valuation of Inventories, Accounting Standard-3 related to Cash Flow Statement, Accounting Standard -4 related to Contingencies and Events occurring after Balance Sheet Date, Accounting Standard-10 related to Accounting for Fixed Assets, Accounting Standard -12 related to Accounting for Government Grants, Accounting Standard -15 related to Employee Benefits, Accounting Standard-16 related to Borrowing Cost, Accounting Standard-17 related to Segment Reporting, Accounting Standard-18 related to Related Party Disclosures, Accounting Standard-28 related to Impairment of Assets and Accounting Standard-29 related to Provisions, Contingent Liabilities and Contingent Assets.
- 16.2 During the current Financial Year changes were made in booking of expenses related to Printing & Stationery, Consumption of Stamp, etc without its disclosure in NOTES ON ACCOUNTS and it's impact on Loss for the year and resulted into non Compliance of Accounting Standard-5- "Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies".



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17. Deviation from Schedule-III to the Companies Act, 2013: The Financial Statement prepared by the company has not followed Schedule-III to the Companies Act, 2013 properly. Security Deposit Paid and Advances given to contractors for capital works were not treated as capital advance, under Long Term Loans & Advances. Similarly Liabilities were not properly disclosed under current and Non Current Liabilities and even EMD, Securities Deposit received were treated as Current Liabilities.
18. Disclosures:
- 18.1. The Company has not separately disclosed additional information in the Financial Statements as required by Notification No. GSR 494(E) dated 30 th October, 1973 as well as required under Schedule-III to the Companies Act, 2013 related to Sales, Employee Remuneration, Audit Expenses Prior Period Expenses, Export Turnover, and other non monetary disclosures.
- 18.2. The management has not furnished the following information although required to be disclosed by way of a note to the accounts :
- Claims against the Company not acknowledged as debt.
- Estimated amount of contracts remaining to be executed on capital account and not provided for.
- 18.3. Particulars of Advances: As required by Schedule VI Part II of The Companies Act, 1956, the Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.
19. As explained Kosi Kataiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferor related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.
20. Observations made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.



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Moreover in the Financial Year 2013-14, authenticated accounts produced before us in four sets, but it was found that non of the set of accounts is complete since pages of Note No 7 (Capital work in Progress) running in three pages have been haphazardly binded in each of the separate set (like in the set carrying page 1 of note-7, page 2 and 3 are missing and the like) and thus non of the set of accounts is complete. Similar is the mismatch incomplete binded position for Note No. 2 to 5 and 7 to 18.

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
(FRN 001762C with ICAI)

PATNA
The 18th day of December, 2020
UDIN: 20012525AAAABQ5538

(CA H.K.P. Jain)
PARTNER
M.No.012525

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Raghu Bhaiya



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITEDANNEXURE -A TO THE AUDITORS' REPORT ON THE ACCOUNTS FOR THE
YEAR ENDED 31ST MARCH, 2014 (Referred to in paragraph '1' of our report
of even date)

1. In respect of its fixed assets:
 - a. The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.
 - b. As explained the fixed assets have not been physically verified by the management during the year.
 - c. No substantial part of fixed assets has been disposed off during the year affecting the going concern status of the company on this matter.
2. In respect of its inventories :
 - a. The Inventories have not been physically verified during the year by the management. Clause (b) and (c) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.
3. a. As explained to us, the Company has not granted any Loan to Companies, Firms or other Companies listed in the registers maintained under section 301 and to the Companies under the same management. As such clause b, c and d are not applicable for the Company. However, Register maintained under section 301 was not shown to us.
b. As explained to us, the Company has not taken any loan from the Companies firms or other parties listed in the Registers maintained under section 301. As such clause f and g are not applicable for the Company. However, Register maintained, if any, under section 301 was not shown to us.
4. *In our opinion, there are reasonable internal control system commensurate with the size of the unit and nature of its business relating to purchase of inventory and fixed assets and for sale of energy and other services, however it needs to be strengthened in the area such as Project Cost incurred vis- a- vis value of Project as per DPR and it's approval from the Government , linking of credit and debit balances*



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appearing in Bank Reconciliation, linking of advances to Contractors / supplier with liabilities, proper reconciliation and adjustment of advances, awarding of Contract of Projects, distribution of Mobile phones to employees and it's control, etc. As per our test checks, there is no serious continuing failure to correct major weakness in internal control system.

5. a. As register maintained under section 301 of the Companies Act, 1956, was not available we are unable to state whether particulars of contracts or arrangements referred to in section 301 of the Companies Act, 1956 have been entered in the register required to be maintained under that section.
- b. For the reason stated in sub-paragraph (a) above we are unable to state whether transactions made in pursuance of contracts or arrangements entered in the register maintained under section 301 of the Companies Act, 1956 have been made at prices which are reasonable having regard to prevailing market prices.
6. The Company has not accepted deposits from the public within the meaning of Section 58A and 58 AA or any other relevant provisions of the Companies Act, 1956 and the rules framed there under.
7. The company has engaged a firm of Chartered Accountants to get annual account prepared and signed with report thereon. Internal audit should be carried out throughout the financial year requiring periodical reporting to enable the management to take corrective measure in time where ever required.
8. As explained to us, matter related to maintenance of cost records is not applicable to this company in view of the nature of its business.
9. (a) In absence of relevant returns and records it is not possible to comment upon regular deposit of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2014 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of Investor Education and Protection Fund, Custom Duty, Excise Duty and Cess in view of its nature of business
- (b) For the reason stated in sub-para (9)(a) above, it is also not possible to mention the statutory dues of Sales Tax/ Income Tax/ Custom Duty/ Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.




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20. The Company has not raised any money during the year by public issue.
21. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.

For SALARPURIA JAJODIA & CO.
Chartered Accountants,
FRN 001762C with ICAI

PATNA
The 18th day of December, 2020


(CA H.K.P. Jain)
PARTNER
M.No.012525




Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna, Bihar

10. The Accumulated loss of the Company as on 31 st March, 2014 exceed 50% of its net worth. The company has incurred cash losses during the current financial year covered by our audit and also in the immediately preceding financial year.
11. Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, or debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.
12. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities.
13. In our opinion, the Company is not a chit fund or a Nidhi /Mutual benefit fund/society. Therefore, clause 4(xiii) of the Companies (Auditor's Report) Order, 2003 is not applicable to the Company.
14. In our opinion and according to the information and explanations given to us, the Company is not a dealer or trader in shares, securities and debentures and there is no investment by the company.
15. In our opinion and according to the information and explanations given to us, the Company has not given guarantees for loans taken by others from Banks or financial institutions.
16. As explained by the company, the term loans received from Government of Bihar have been applied for the purpose for which they were obtained, subject to para 1 to 19 of the Audit Report.
17. According to the information and explanations given to us and on an overall examination of the balance sheet of the company, we state that the no funds raised on short-term basis have been used for long term investment.
18. During the year the Company has not made any preferential allotment of shares to parties and companies covered in the register maintained under Section 301 of the Companies Act, 1956.
19. The Company has not issued any debentures.



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Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2014

PARTICULARS	Note	As at 31.03.2014	As at 31.03.2013
<u>EQUITY AND LIABILITIES</u>			
<u>Shareholders' Funds</u>			
Share Capital	1	990,400,000.00	990,400,000.00
Reserves and Surplus	2	(1,733,277,562.82)	(1,512,361,383.36)
<u>NON- CURRENT LIABILITIES</u>			
Long-term borrowings	3	8,336,539,298.21	7,341,199,427.22
<u>CURRENT- LIABILITIES</u>			
Trade payables	4	15,859,301.91	16,106,813.91
(Dues of Micro Enterprises & Small Enterprises - Nil)			
Other current liabilities	5	203,140,128.94	104,185,123.57
		7,812,661,166.24	6,939,529,981.34
<u>ASSETS</u>			
<u>Non-current assets</u>			
<u>Fixed Assets</u>			
Gross Block	6	2,697,031,441.28	2,669,140,924.08
Less : Depreciation		1,000,845,696.22	902,854,038.88
Net Block		1,696,185,745.06	1,766,286,885.20
Capital work-in-progress	7	4,783,639,531.16	4,159,070,140.08
<u>Current assets</u>			
Inventories	8	12,539,239.99	12,539,239.99
Trade Receivables	9	234,635,260.00	211,495,551.00
Cash & Bank Balances	10	535,816,611.30	285,760,532.14
Short-term loans & advances	11	549,844,778.73	504,377,632.93
		7,812,661,166.24	6,939,529,981.34

Significant Accounting Policies and Notes on Accounts:-

(The accompanying notes are integral part of the financial statements)

Khushboo
(Khushboo)
Company Secretary

Alok Kumar
Director

Al
(Alok Kumar)
Managing Director

In terms of Our Report of Even Date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

Place: PATNA

The 18th Day of December 2020



CA H.K.P. Jain
(CA H.K.P. Jain)
MRN 012525
(Partner)



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna
STATEMENT OF PROFIT & LOSS FOR THE YEAR ENDED 31ST MARCH, 2014.

<u>PARTICULARS</u>	<u>Schedule</u>	<u>Current Year</u>	<u>Previous Year</u>
INCOME			
Revenue from operations	12	135,366,248.00	129,908,297.00
Other Income	13	22,672,535.00	11,231,320.75
Total Revenue		158,038,783.00	141,139,617.75
EXPENDITURE			
Cost of material consumed	14	39,572,248.00	22,881,375.00
Employee benefit expenses	15	72,575,623.00	78,469,298.00
Other Expenses	16	12,096,999.63	28,745,935.35
Total Expenses		124,244,870.63	130,096,608.35
Earning before interest and tax		33,793,912.37	11,043,009.40
Financial costs	17	220,539,180.49	210,295,859.00
Depreciation & Amortisation Exp.	18	96,058,152.00	92,061,634.00
Profit/(Loss) before tax		(282,803,420.12)	(291,314,483.60)
Tax expense:			
Current tax		-	-
Deferred tax		-	-
Total tax expenses		(282,803,420.12)	(291,314,483.60)
Profit/(Loss) after tax		(282,803,420.12)	(291,314,483.60)
Earning per equity share		(285.54)	(294.14)
Basic & Diluted (Nominal value per share of ` 1000/-)			
Weighted Average Number of Equity Shares (Basic & Diluted)		990,400.00	990,400.00
<u>Significant Accounting Policies and Notes on Accounts :</u>	19		

Khushboo
(Khushboo)
Company Secretary

Alok Kumar
Director

Al
(Alok Kumar)
Managing Director

In terms of Our Report of Even Date.
For SALARPURIA JAJODIA & CO
Chartered Accountants

Place: PATNA
The 18th Day of December 2020

H.K.P. Jain
(CA H.K.P Jain)
MRN 012525
(Partner)



Han
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
NOTES FORMING PART OF BALANCE SHEET
for the year ended 31st March, 2014.

Note: 1 **SHARE CAPITAL**

Particulars	As at 31st March, 2014		As at 31st March, 2013	
	Number of share	Amount Rs.	Number of share	Amount Rs.
Authorised				
Equity shares of Rs.1000/- each	1000000	1000000000	1000000	1000000000
Issued, Subscribed and fully paid up				
Equity shares of Rs.1000/- each	990400	99040000	990400	99040000
	<u>990400</u>	<u>99040000</u>	<u>990400</u>	<u>99040000</u>

(ii) Share Capital Reconciliation

Particulars	As at 31st March, 2014		As at 31st March, 2013	
	Number of Shares	Amount	Number of Shares	Amount
Opening Balance	990400	990400000	990400	990400000
Add:- Fresh Issue				
Closing Balance at the year end	<u>990400</u>	<u>990400000</u>	<u>990400</u>	<u>990400000</u>

(iii) Details of shares held by shareholders holding more than 5% of the aggregate shares in the company.

Name of Shareholders	As at 31st March, 2014		As at 31st March, 2013	
	Number of Shares	% of Holding	Number of Shares	% of Holding
Governor of Bihar	683371	69.00%	683371	69.00%
Governor of Jharkhand	307023	31.00%	307023	31.00%

Khushboo
Company Secretary
 Bihar State Hydro Electric
 Power Corp. Ltd.
 PATNA

Hedy
Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

dl
Managing Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA



Hedy
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Bhawan Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Notes annexed to and forming parts of account
for the year ended 31st March, 2014

Particulars	As at 31.03.2014	As at 31.03.2013
<u>Note: 2</u>		
RESERVE & SURPLUS		
Surplus / (Deficit)		
Capital Subsidy		
As per last account	225,658,000.00	220,658,000.00
Addition during the year	67,350,000.00	5,000,000.00
(A)	293,008,000.00	225,658,000.00
Profit in Statement of Profit and Loss		
Opening balance	(1,738,019,383.36)	(1,446,704,899.76)
Prior Period Adjustment	(5,462,759.34)	
Add: Profit / (Loss) for the year	(282,803,420.12)	(291,314,483.60)
Closing balance	(B) (2,026,285,562.82)	(1,738,019,383.36)
Total(A+B)	(1,733,277,562.82)	(1,512,361,383.36)

Note: 3

Long term borrowings
From Government of Bihar

Principal	2,130,899,000.00		
Interest accrued	3,504,152,713.22	5,635,051,713.22	1,970,899,000.00
			3,235,063,719.22
			5,205,962,719.22

From Government of Jharkhand

	50,000,000.00	50,000,000.00
--	---------------	---------------

From Government of Bihar under RIDF
(NABARD) Scheme

Principal	1,927,176,000.00		
Interest accrued	724,311,584.99	2,651,487,584.99	1,584,969,000.00
			500,267,708.00
			2,085,236,708.00
		8,336,539,298.21	7,341,199,427.22

Notes:

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2009-10 loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.



Khushboo
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

14/12/2010
Director

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

- During the Year 2011-12 Loan of Rs. 355342000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 10 new projects and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 8 During the year 2011-12 loan of Rs. 19607000 received from Government of Bihar for 2 new projects namely Sipha and Dehra and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 9 During the Year 2012-13 Loan of Rs. 109924000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 04 new projects namely Bathnaha, Nirmali, Sipha and Dehri Escape Channel and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 10 During the Year 2012-13 Loan of Rs. 139799000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 02 new projects namely Arrarghat and Dehri Escape Channel and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 11 During the year 2012-13 loan of Rs. 33670000.00 received from Government of Bihar for Arrarghat Project and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 12 During the year 2012-13 loan of Rs. 11000000.00 received from Government of Bihar for Dagmara Project and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 13 During the Year 2013-14 Loan of Rs. 167883000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 03 new projects namely Nirmali, Bathnaha phase-I and Dehra is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 14 During the year 2013-14 loan of Rs. 150000000.00 received from Government of Bihar for V.Nagar Escape and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Note: 4

TRADE PAYABLES

Acceptances and small enterprises

Other than acceptances

Sundry Creditors

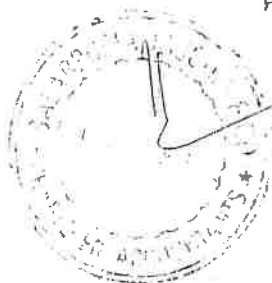
	15,859,301.91	16,106,813.91
Total	15,859,301.91	16,106,813.91

Kushthia
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

Abh
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Wm
Chief Engineer (Ele)
Bihar State Hydroelec
Power Corporation L
Sone Bhawan, Patna



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 5

OTHER CURRENT LIABILITIES

Liabilities for expenses

Other Liabilities

Income Tax deducted at source

Security Deposits

Deductions from Contractors

Royalty

Sales Tax

VAT

Service Tax

Grant in Aid

Irrigation Department

Interest accrued - PFC Loan

Group Gratuity Payable

Group Gratuity Scheme

AID for RGGVY (DDG)

Suspense

31.03.2017

31.03.2016

(125,731.41)

53,520,586.99

26,296,949.77

6,435,550.75

(40,217,432.45)

5,000.00

408,120.00

11,500,000.00

4,531,253.00

177,421.00

964,553.00

109,492,500.00

(47,524.40)

203,140,128.94

31,069,950.71

2,739,668.23

1,541,364.59

50,308,382.99

24,518,035.77

6,435,550.75

(27,217,381.07)

-

20,600.00

(1,392,198.00)

11,500,000.00

4,531,253.00

177,421.00

-

(47,524.40)

104,185,123.57

Note: 8

INVENTORIES

Capital Stores

Materials issued to contractors

Stationery Items

Exide Battery

Stock Suspense

6,778,250.80

5,344,397.56

324,908.84

23,895.68

67,787.11

12,539,239.99

6,778,250.80

5,344,397.56

324,908.84

23,895.68

67,787.11

12,539,239.99

Note: 9

TRADE RECEIVABLES

(Unsecured, considered good)

Debts outstanding for a period exceeding six months

Other debts

42,961,998.00

191,673,262.00

234,635,260.00

85,795,367.00

125,700,184.00

211,495,551.00

Note: 10

CASH AND CASH EQUIVALENTS

Balance with Scheduled Banks in Current Account

Short Term deposits with bank

PL Account with SBI Secretariat Branch

Cash on hand

Cheques in hand

Stamps in hand

203,907,900.06

13,931,739.87

317,897,620.00

66,665.37

-

12,686.00

535,816,611.30

89,168,229.25

13,806,739.87

14,620.00

160,257.02

182,598,000.00

12,686.00

285,760,532.14

Note: 11

SHORT TERM LOAN AND ADVANCES

(Unsecured, considered good)

Advances receivable in cash or in kind

Advance - Tax Deposit

Recoverables

Prepaid Expenses - Insurance

Receivables- Energy Dept. Govt of Bihar

Interest Accrued on Fixed Deposits

Security Deposit - BSEB (TB)

Security Deposit - (Telephone)

Advance for land acquisition

Ranchi Project Office

Inter Unit Current Account

505,078,960.63

19,517,220.96

1,765,689.17

10,000.00

4,317,462.10

18,244,561.00

12,000.00

-

500,000.00

238,066.00

160,818.87

549,844,778.73

480,193,942.83

16,920,851.96

1,765,524.17

10,000.00

4,317,462.10

258,967.00

12,000.00

-

500,000.00

238,066.00

160,818.87

504,377,632.93



Khushboo
Company Secretary
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PATNA

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Power Corporation Ltd.
PATNA

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Bhawan, Patna

-2-
BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Notes: 6
FIXED ASSETS

Sl. NO.	PARTICULARS	GROSS BLOCK			DEPRECIATION			NET BLOCK	
		As at 01.04.2013	Addition during the year	Deduction during the year	As at 31.03.2014	During the year	Adjustment	As at 31.03.2014	As at 31.03.2013
1	Land - Freehold	20,411,326.53		0.00	20,411,326.53	0.00	0.00	20,411,326.53	20,411,326.53
2	Land - Leasehold	185,800.00	0.00	0.00	185,800.00	0.00	0.00	185,800.00	185,800.00
3	Buildings - Residential	18,303,457.67	0.00	0.00	18,303,457.67	2,98,347.00	0.00	5,453,114.82	13,130,139.85
4	Buildings - Non Residential	15,497,300.09	0.00	0.00	15,497,300.09	4,68,019.00	0.00	7,656,900.13	8,308,486.06
5	Buildings - Sheds	729,825.55	0.00	0.00	729,825.55	0.00	0.00	729,825.55	729,825.55
6	Roads & Bridges	43,671,017.07	0.00	0.00	43,671,017.07	13,18,865.00	0.00	24,345,270.73	19,325,740.34
7	Water Supply Installation	190,280.36	0.00	0.00	190,280.36	6,469.00	0.00	124,363.44	65,916.92
8	Electric Installation	253,741,616.70	64,50,137.20	0.00	260,191,753.90	1,38,05,930.60	0.00	188,076,759.55	72,114,904.15
9	Plant & Machinery	1,023,411,003.03	49,89,560.00	0.00	1,028,400,563.03	3,38,29,617.00	0.00	365,716,694.01	662,683,869.03
10	Power House	1,251,699,508.96	1,57,08,953.00	0.00	1,267,408,521.96	4,36,96,174.34	0.00	377,147,455.60	890,261,066.16
11	Furniture & Fixtures	3,619,059.11	4,33,301.00	0.00	4,052,360.11	2,07,298.00	0.00	2,715,978.31	1,110,378.89
12	Office Equipments	7,601,260.59	1,17,425.00	1,595.00	7,717,090.59	3,62,080.00	0.00	3,579,815.78	4,137,274.81
13	Other Equipments	22,932,020.94	1,86,370.00	0.00	23,118,390.94	14,03,669.40	0.00	19,557,976.24	3,560,414.76
14	EPBX Machine	540,350.00	0.00	0.00	540,350.00	25,667.00	0.00	266,616.65	273,733.45
15	Books	433,782.46	6,366.00	0.00	440,148.46	20,483.00	0.00	195,272.39	299,460.35
16	Vehicles	3,945,504.46	0.00	0.00	3,945,504.46	3,64,676.00	0.00	244,876.07	258,993.07
17	Bicycles	11,223.14	0.00	0.00	11,223.14	0.00	0.00	11,218.20	11,218.20
18	Computers	2,095,941.52	0.00	0.00	2,095,941.52	1,80,053.00	0.00	2,095,940.40	54,068.82
19	Other Assets	120,585.90	0.00	0.00	120,585.90	4,309.00	0.00	66,517.08	156,034.12
	Total :-	2,669,140,924.08	27,892,112.20	1,595.00	2,697,051,441.28	97,991,657.34	-	1,000,845,696.22	1,696,185,745.06
	Previous Year :-	2,266,196,096.20	402,947,952.88	3,125.00	810,008,493.88	92,845,545.00	0.00	902,854,038.88	1,766,286,885.20
									1,356,187,803.32



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

Neel
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Sh
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

CAPITAL WORK IN PROGRESS

A. Assets under construction/installation

Sl. NO	Particulars	As at 01.04.2013	Addition during the year	Deduction during the year	As at 31.03.2014
1	Power House	7,631,514.24	-	-	7,631,514.24
2	Transformer (Sub-Station Equipments)	139,315,147.11	-	-	139,315,147.11
3	Auxiliary & Ancillary Equipments	5,236,595.73	-	-	5,236,595.73
4	Road & Bridges	409,542.00	-	-	409,542.00
5	Water Supply Installation	9,067,794.41	-	-	9,067,794.41
6	Intake Gates	1,164,233.42	-	-	1,164,233.42
7	Generating Set	5,812,325.74	-	-	5,812,325.74
8	Expenses on Investigation	114,594.24	-	-	114,594.24
9	Power/Esc. Channel	552,005.05	-	-	552,005.05
10	Excavation Work-in-Progress	37,524,050.13	-	-	37,524,050.13
11	Transmission System	243,680.00	-	-	243,680.00
12	Fencing Wall	10,016,050.09	-	-	10,016,050.09
13	Rock Excavation Allow Pen Stock	22,724.00	-	-	22,724.00
14	Tail & Tunnel	5,889,944.20	-	-	5,889,944.20
15	Micro Hydle Set	17,293,114.70	-	-	17,293,114.70
16	Dewatering of Pit	814,029.00	-	-	814,029.00
17	Construction of Store & Godown	9,717,966.00	-	-	9,717,966.00
18	Designing & Drawing	730,116.00	-	-	730,116.00
19	Land Acquisition	465,500.00	-	-	465,500.00
20		4,378,205.00	-	-	4,378,205.00
21	AMETHI				
	Power House(Amethi)	28,792,028.45	-	-	28,792,028.45
	Construction of E/M Amethi	22,478,869.28	5,806,000.00	-	28,284,869.28
	Construction of Switchyard (Amethi)	380,250.00	498,240.00	-	779,190.00
	Const. of Non Residential Building (Amethi)	1,285,605.00	-	-	1,285,605.00
	E/M Equipment (Amethi)	1,315,318.00	-	-	1,315,318.00
22	ARRARHAT				
	Land- Arrarhat	2,772,200.00	-	2,218,710.00	553,490.00
23	ARWAL				
	Construction of E/M Arwal	59,670.00	-	-	59,670.00
	Power House (Arwal)	222,073.00	-	-	222,073.00
	Electric Equipment(Arwal)	(4,330,311.00)	-	-	(4,330,311.00)
	Febrization(Arwal)	(871,981.00)	-	-	(871,981.00)
	switchyard(Arwal)	0.00	-	-	(871,981.00)
24	BELSAR				
	Power House(Belsar)	-	-	-	-
	Construction of E/M Belsar	-	-	-	-
	Electric Equipment (Belsar)	(9,976,904.00)	-	-	(9,976,904.00)
	switchyard(Belsar)	-	-	-	(9,976,904.00)
25	JALIM GHAGH				
	Power House(Jalim)	19,306,480.00	-	-	19,306,480.00
26	RAJAPUR				
	Plant & Machinery (Rajapur)	3,014,184.00	-	-	3,014,184.00
	Power House (Rajapur)	42,614,229.00	-	-	42,614,229.00
	Construction of E/M Paharma	40,602,168.60	2,697,450.00	-	43,299,618.60
	Const. of P. H (Pharma)	3,055.00	-	-	3,055.00
27	LGP				
	Power House (LGP)	14,240,389.43	-	-	14,240,389.43
28	RAMPUR				
	Power House(Rampur)	14,162,608.73	-	-	14,162,608.73
	Construction of E/M Rampur	11,267,111.00	23,090.00	-	11,290,201.00
29	NATWAR				
	Power house (Natwar)	14,421,149.00	-	-	14,421,149.00
	Eot Crane (Natwar)	1,426,000.00	-	-	1,426,000.00
	Electric Equipment(Natwar)	4,964.00	-	-	4,964.00
	Const. of P. H (Natwar)	593,547.00	2,831,337.00	-	3,424,884.00
	Construction of E/M Natwar	2,970,194.92	-	-	2,970,194.92
30	NINDI				
	Power House (Nindi)	852,489.00	-	-	852,489.00
31	PIHARMA				
	Power House (Paharma)	27,075,398.00	-	-	27,075,398.00
32	SDP				
	Power House (SDP)	23,260,103.66	-	-	23,260,103.66



Krushna
Company Secretary
Bihar State Hydro Electric
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PATNA

Al
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PATNA

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Power Corporation Ltd.

34 DEHRA				
Const. of E/M - Dehra	21,166,955.00	16,525,853.00	-	-
Power House (Dehra)	35,217,005.00	13,725,896.00	-	37,694,808.00
35 TB				46,942,961.00
Electric Installation (TB)	245,700.00	1,378,095.00	-	-
Power House (TB)	1,086,354.00	-	-	1,623,795.00
				1,086,354.00
36 TEJPURA				
Const. of Power Transformer	85,160.00	-	-	-
Transmission Line - Tejpura	1,251,140.00	-	-	58,689,808.00
Switchyard Tejpura	1,251,140.00	-	-	188,000.00
Construction of E/M (Tejpura)	24,592,232.84	-	-	2,215,314.00
Const. of PH (Tejpura)	6,454,838.00	-	13,464.00	24,278,768.84
Const. of SLR Bridge	-	1,634,213.00	-	6,454,838.00
Const. of DLR Bridge	-	798,289.00	-	1,634,213.00
37 WALIDAD				798,289.00
Power House (Walidad)	24,094,612.00	1,820,000.00	-	-
Transmission Line (Walidad)	1,424,322.00	-	-	25,914,612.00
Construction of Electric Equipment (Walidad)	14,815,567.72	-	-	1,424,322.00
38 BARBAL				14,815,567.72
Power House (Barbal)	21,151,377.00	-	-	-
Land-Barbal	5,147,640.00	-	-	21,151,377.00
39 BATHNAHA			1,500,240.00	3,647,400.00
Power House (Bathnaha)	61,713,157.00	15,302,972.00	-	-
Land-Bathnaha	16,714,746.00	-	-	77,016,129.00
Construction of E/M (Bathnaha)	21,905,606.00	-	3,721,302.00	12,993,444.00
Tools & Plant-Bathnaha	50,903.00	-	-	21,905,606.00
40 DAGMARA				50,903.00
Const. of P.H. - Dagmara	11,726,820.00	-	-	-
Preparation Of physical Model	-	10,769,196.00	-	11,726,820.00
41 MATHAULI				10,769,196.00
Power House (Mathauli)	31,205,835.00	2,674,502.00	-	-
Const. of E/M Equipment (Mathauli)	5,364,785.00	13,132,262.00	-	33,880,337.00
Land-Mathauli	3,454,862.00	-	-	18,497,047.00
Construction of Power Channel (Mathauli)	4,307,171.00	1,981,912.00	1,811,112.00	1,643,750.00
42 NIRMALI				6,289,083.00
Power House (Nirmali)	30,951,572.00	135,707,636.00	-	-
Const. of E/M of Equipment - Nirmali	4,264,900.00	6,560,000.00	-	166,659,208.00
Land-Nirmali	9,071,180.00	-	-	10,824,000.00
43 SONE WESTERN			2,483,035.00	6,588,145.00
Const. of power house (SW)	1,376,041.00	-	-	-
SIPHA				1,376,041.00
Const. of E/M (Shipha)	24,249,584.00	10,592,915.00	-	-
Power House (Sipha)	32,626,420.00	5,185,291.00	-	34,842,499.00
Const. of Bridge (Shipha)	-	1,258,003.00	-	37,811,711.00
44 KATANIA				
Power House (Katania)	29,719,632.00	-	607,068.00	-
Land-Katania	2,719,273.00	-	1,024,800.00	29,112,564.00
45 TRIVENI				1,694,473.00
Land - Triveni	(1,019,922.00)	-	-	-
46 SADANI				(1,019,922.00)
Land - Sadani	1,270,800.00	-	-	-
47 JAINAGRA				1,270,800.00
Construction of E/M Jainagra	(10,373,276.00)	-	-	-
48 PHARMA				(10,373,276.00)
Construction of E/M Paharma	43,160,939.00	-	-	-
Const. of P.H (Pharma)	4,288,718.00	-	-	43,160,939.00
switchyard(pharma)	256,500.00	-	-	4,288,718.00
49 CHANDIL				256,500.00
Construction of E/M (Chandil)	75,849,673.58	24,076,985.00	-	-
50 NORTH KOEL				99,926,658.58
Fabrication Erection	25,647,213.00	-	-	-
Construction of Pen Stock	587,542.00	-	-	25,647,213.00
Plantation	54,978.00	-	-	587,542.00
Construction of E/M (North Koel)	83,412,950.45	-	-	54,978.00
Total A	1,366,974,070.61	274,980,837.00	13,379,731.00	83,412,950.45
Previous Year	1,245,440,855.93	207,168,463.00	85,635,248.32	1,628,575,176.61
				1,366,974,070.61

Khushbir
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PATNA



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 12

REVENUE FROM OPERATIONS

Sale of Electricity

135,366,248.00	129,908,297.00
135,366,248.00	129,908,297.00

Note: 13

Other Income

Interest - Fixed Deposits

Interest - Other

Interest - House Building Advance

Interest - Marriage Advance

Interest - Motor Cycle Advance

Recovery of Electricity

House Rent

Insurance Claim

Recovery of Materials

Sale of Tender Paper

Miscellaneous Income

20,581,963.00	7,559,098.75
	1,194,467.00
450,756.00	457,107.00
11,426.00	6,057.00
35,646.00	7,750.00
973,907.00	270,651.00
132,809.00	145,127.00
0.00	0.00
0.00	0.00
271,750.00	776,000.00
214,278.00	815,063.00
22,672,535.00	11,231,320.75

Note: 14

Cost of material consumed

Operation and Maintenance of Power House

Operation and Maintenance

39,572,248.00	22,881,375.00
39,572,248.00	22,881,375.00

Note: 15

Employee Benefit Expenses

Managing Director's Remuneration

Salary & Allowance

Group Gratuity Scheme Exp

812,254.00	1,937,796.00
72,958,670.00	79,591,198.00
1,341,873.00	
75,112,797.00	81,528,994.00

Transfer to Capital Work in Progress (Schedule 9)

2,537,174.00	3,059,696.00
72,575,623.00	78,469,298.00

Total

Khushboo
Company Secretary
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PATNA

Abh
Director
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Al
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PATNA



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 16

Other Expenses

Administration and Management Expenses

D.I. and P.I. Administrative Charges

Uniform and Travelling

Reimbursement of Medical & Educational Expenses

Account Computerisation

Rent

Electricity

Travelling & Conveyance

Petrol, Oil & Lubricants

Insurance

Advertisement

Telephone & Telex Charges

Internet Expenses

Printing & Stationary

Postage

Conference and Seminar

Bank Charges

Repairs - Vehicles

Repairs - Building

Repairs - Plant

Repairs - Other

Hire & Rental Charges

Licence & Registration Fee

Consultancy/Legal & Professional fees

D.P.R. Expenses

Statutory Auditors Fee

Internal Auditors Fee

Tax Audit Fees

Entertainment

Survey & Investigation

News Paper

Transportation Charges

Grant for Purchase of Computer

Donation & Subscription

Plantation

* wages to security

Testing & Commissioning

Miscellaneous Expenses

Transfer to Capital Work in Progress (Schedule 9)

Total

Note: 17

Interest & Finance Charges

Interest on Term Loans

Government of Bihar

Interest on PFC Loan

Government of Bihar -RIDF (NABARD)

Transfer to Capital Work in Progress

Note: 18

Depreciation

As per Schedule 4

Transferred as a prior period adjustment

Transfer to Capital Work in Progress

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

B. Development Expenditure				
S. NO	PARTICULARS	As at 01.04.2013	Addition during the year	Deduction during the year
				As at 31.03.2014
1	1. Preliminary Survey & Feasibility Study	10,477,053.46	24,12,746.60	0.00
2	2. Preliminary Expenses - Projects	92,777,511.82	0.00	0.00
3	3. New Project Expenses	505,546.00	0.00	0.00
4	4. Development Expenditure as per last account	632,703,539.38	0.00	0.00
5	5. Development Expenditure (Detail of addition given below)			632,703,539.38
	Amethi	24,938,799.70	5,573,047.00	0.00
	Arrawal	-	0.00	0.00
	Arrahar	4,479,128.00	21,231,816.00	0.00
	Barbar	18,312,439.00	7,786,033.00	0.00
	Bahnaha	143,446,248.00	65,018,192.00	0.00
	Belur	0.00	0.00	0.00
	Bagha	0.00	191,357.00	0.00
	Bettiah	0.00	63,566.00	0.00
	Chandil	480,650,992.22	49,500,004.58	0.00
	Dagmura	127,155,957.89	41,845,535.00	0.00
	Dhoba	19,066,150.00	8,109,777.00	0.00
	Sipha	14,056,865.00	14,574,788.00	0.00
	Indrapuri	-	289,142.00	0.00
	Jalimgagh	18,725,153.89	1,332,500.00	0.00
	Katnai	21,648,380.00	9,051,055.00	0.00
	Lower Ghagari	11,543,171.47	700,692.00	0.00
	Mathuali	13,930,619.00	6,691,763.00	0.00
	Mandol (North koel)	708,263,065.85	15,804,896.00	0.00
	Madhupura	-	1,576,990.00	0.00
	Natwar	14,606,621.00	3,161,188.00	0.00
	Netrahat	1,452,791.68	79,197.00	0.00
	Nimbargh	18,726,727.47	1,332,500.00	0.00
	Nurmai	63,882,266.00	10,001,353.50	0.00
	Nokha	0.00	183,709.00	0.00
	Pharma	41,136,110.53	8,851,932.00	0.00
	Rajapur	27,507,502.73	5,661,843.00	0.00
	Rampur	14,534,496.43	3,266,734.00	0.00
	Sadani	26,876,551.00	1,751,863.00	0.00
	Dehra	15,394,896.00	17,249,114.00	0.00
	Sone Eastern	2,423,286.91	0.00	0.00
	Tejpur	60,707,493.65	11,389,070.00	0.00
	Tenu	77,208,677.00	6,002,058.00	0.00
	Walidat	28,144,460.73	5,782,824.00	0.00
	Total of 5	1,998,818,851.15	354,054,539.08	0.00
6	6. Interest on Loan - Bihar Government	18,363,881.13	0.00	0.00
7	7. Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00	0.00
8	8. Interest on Loan - NABARD	26,894,138.00	0.00	0.00
9	9. Transfer from Head Office	2,797,453.53	0.00	0.00
10	10. Capital Maintenance of PH (SW)	2,722,518.00	0.00	0.00
	Total B	2,792,096,069.47	362,968,285.08	0.00
	Previous Year	3,764,172,970.91	514,266,040.05	119,368,870.88
	Total A+B	4,159,070,140.08	637,942,122.08	13,379,731.00
				4,783,639,531.16

Khushboo
Company Secretary
Bihar State Hydro Electric
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PATNA

Director
Director
Bihar State Hydroelectric
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Managing Director
Managing Director
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Power Corporation Ltd. PATNA



Chief Engineer (Elect.)
Chief Engineer (Elect.)
Bihar State Hydroelectric
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Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Detail of Development Expenditure (Net)

	2013-14	20012-13
1 INCOME		
Interest on Government of Bihar Loan	1,22,646.92	
Interest on Miscellaneous Adv	0.00	7,487.00
Interest on FBA	5,160.00	5,160.00
Recovery of Electricity	26,575.00	19,200.00
Recovery of House Rent	(7,487.00)	1,075.00
Intt. On Marriage advance	0.00	0.00
Recovery of Penalty	1,656.00	1,100.00
Misc Income	0.00	0.00
Total 1	1,159,419.92	2,07,219.00
2 EXPENDITURE		
Salary & Allowance		
Wages Contingent Staff	5,321,250.00	73,70,996.30
Uniform & Livenes	5,383,659.00	23,96,013.00
Medical Expense	5,922.50	13,874.55
Survey & Investigation	1,02,468.00	0.00
Rent	67,93,493.00	0.00
Travelling & Conveyance	1,73,740.00	1,17,000.00
Telephone & Telex Charges	3,19,017.00	10,99,458.00
Printing & Stationary	25,764.00	55,221.00
Postage	88,807.00	3,77,436.00
Petrol, Oil & Lubricants	368.00	1,186.00
Electricity Charges	6,81,655.00	4,61,701.00
Bank Commission	4,120.00	7,770.00
Repairs & Maintenance	300.00	0.00
Transportation/Freight & Carriage Charges	50,69,101.00	8,33,983.00
Insurance	31,471.00	9,930.00
Hire Charges of Vehicle	10,651.00	13,582.00
Preparation of DPR	7,39,126.00	6,07,431.00
Preparation of E-TDS	53,550.00	15,44,706.00
Consultancy/Legal Expenses	4,136.00	9,774.00
Entertainment	23,85,129.00	6,36,735.00
Interest on Government of Bihar Loan	1,72,507.00	42,777.00
Interest on Government of Bihar Loan -RIDF (NABARD)	9,97,99,637.00	8,16,13,134.00
Testing	17,27,94,053.50	13,41,05,206.00
Newspaper	1,35,01,788.00	21,33,858.00
Rates & Taxes	2,606.00	2,133.00
Miscellaneous Expenses	0.00	0.00
Administrative & Management Expenses (HO) - Allocated	10,39,553.00	13,95,693.20
Salary Allocated - Other Projects	3,66,01,521.00	6,06,43,813.00
Depreciation	25,37,174.00	30,59,696.00
	15,71,192.00	7,83,911.00
Total 2	355,213,959.00	307,338,818.05
NET (2-1)	354,054,539.08	307,097,577.05

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE: 19

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHPCL") for the year ended March 31, 2014. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 2013 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

2.1. Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to the Accounting Standards referred to in sub-section (3C) of section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent applicable, except as elsewhere.

2.2. Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

2.3. Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

2.4. Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.5. Tangible Fixed Assets, Depreciation and Amortization:

Tangible Fixed assets are stated at cost of acquisition/construction less disposal/ depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

2.6 Capital Work in Progress

a. Capital work in progress includes:

- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production,
- ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
- iii. expenditure incurred on start-up and commissioning of the project, including expenditure incurred on test run, and
- iv. borrowing cost.

- b. The advances given to the Contractors for "Turnkey Basis Projects" are progressively capitalised on the basis of the running bills submitted by the Contractors.

2.7 Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.



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Sone Bhawan

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.8

Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

2.9

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

2.10

Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

2.11.

Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.



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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

2.12. Apportionment of Head Office Expenses

- i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

2.13. Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

2.14 Taxes on Income

- i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- ii. In view of uncertainty of future taxable income no deferred tax resulting from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006.

2.15 Earnings Per Share

Basic earnings per share is computed by dividing the profit/ (loss) after tax by the weighted average of equity shares outstanding during the year.



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd,
PATNA

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd,
PATNA

[Signature]
Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation
Sone Bhawan

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

2.16 Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. these are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

- 3 Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.
- 4 The Assets and Liabilities , if any, after takeover of management of Koshi Kataiya Unit is yet to be accounted for, i.e. the assets and Liabilities are yet to be handed over to the Corporation. However, major renovation expenses have been done by the Corporation during the year and Capitalised during the year.
- 5 Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

6 Bank Accounts

- 6.1 Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.
- 6.2. Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements . Balance confirmations from banks remain to be obtained.
- 6.3. It includes balances of inoperative accounts remain to be confirmed.
- 7 Capital Grant received from MNRE, New Delhi for New Projects has been directly credited to Capital Grant as per para 2.8 of the Accounting Policy. The Corporation has received Rs. 673.50 Lakhs in the current Financial Year for new Projects undertaken by the Corporation.
- 8 There was no employee in the Corporation during the year getting remuneration exceeding Rs. 60,00,000/- p.a. or Rs. 5,00,000/- monthly (P.Y. Rs. 60,00,000/- per year or Rs. 5,00,000/- monthly) for a part of the year.



Krushna
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

9. Since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
10. Final Settlement with Power Finance Corporation amounting to 1362.00 Lakhs has been treated as Interest as interest for Financial Year 2011-12.
11. Interest on Short Term Deposits at Head Office has not been considered for Apportionment and allocation on the Projects.
12. In terms of Ministry of Corporate Affairs Notification No GSR 463(E) dated 05.06.2015, Government Companies are exempted from applicability of provision of section 164(2) of the Companies Act, 2013.
13. In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31 St March, 2014 did not exceed Rs. 50 Crores, Accounting Standard 03, 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.
14. Amount of Contingent Liabilities not quantifiable on account of
 - tax demands including interest and penalties
 - penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities
15. The material issued to contractors, claim recoverable, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.
16. The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing
17. Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna



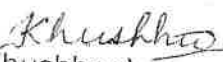
Khushkhod
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

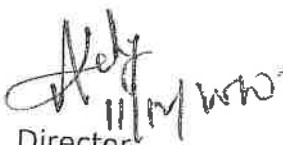
Ashwini Kumar
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA


Al
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

18. The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organization Act, 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final calculation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.
19. In the opinion of the Board and to the best of their knowledge belief, the value of realisation of current and other assets in the ordinary course of business will not be less than the amount at which they are stated in the Balance Sheet.
20. Treatment for Service Tax is as per opinion obtained by the Management from it's Service Tax Consultant.
21. In compliance of new provisions of the Companies Act' 1956, segregation of Liabilities and Assets in to Current and Non- Current Liabilities and Assets along-with corresponding Previous year's figures were prepared by the management from books of accounts, other records and the Audited Financial Statements which Auditors had to rely on the management for the segregation done in Financial year 2012-13 and continuing in the FY 2013-14.
22. Previous years Figures for Financial Year 2012-13 have been re-classified / re-arranged / re-stated and regrouped to make them comparable with figures for current year being Financial Year 2013-14.


(Khushboo)
Company Secretary


Director



(Alok Kumar)
Managing Director

Signed for identification only.
For Salarpuria Jajodia & Co
Chartered Accountants

Patna-800001.
the 18th day of December, 2020


(CA H.K.P. Jain)
Partner
Membership No: 012525.




Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
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BIHAR STATE HYDROELECTRIC
POWER CORPORATION LIMITED,
PATNA

STATUTORY AUDIT REPORT
FOR THE FINANCIAL YEAR 2015-16

AUDITOR'S
M/S ANAND RUNGTA & COMPANY
Chartered Accountants,
405, CAPITOL TOWER-B
FRASER ROAD,
PATNA-800001
Tel. #0612-2332406

Handwritten signature

Chartered Accountant
Bihar State Hydro Electric
Corporation Ltd.

INDEPENDENT AUDITOR'S REPORT

We have audited the accompanying financial statements of Bihar State Hydroelectric Power Corporation Limited, which comprise the Balance Sheet as at March 31, 2016; the Statement of Profit and Loss and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements:

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to the preparation and presentation of these financial statements that give a true and fair view of the financial position, financial performance and cash flows of the Company in accordance with the accounting principles generally accepted in India, including the Accounting Standards specified under Section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the Company and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility:

Our responsibility is to express an opinion on these financial statements based on our audit. We have taken into account the provisions of the Act, the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made thereunder.

We conducted our audit in accordance with the Standards on Auditing specified under Section 143(10) of the Act. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.



An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Company's preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Company has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Company's Directors, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

Qualified Opinion:

In our opinion and to the best of our information and according to the explanations given to us, except for the effects of the matter described in the basis Qualified Opinion the aforesaid financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India including the financial position of the Company as at 31st March, 2016, its financial performance and its cash flows for the year ended on the date.

Basis for Qualified Opinion:

As per annexure "A"

Report on other Legal and Regulatory Requirements:

- 1) As required by the Companies (Auditor's Report) Order, 2015 ("the Order"), as amended, issued by the Central Government of India in terms of sub-section (11) of section 143 of the Act, we give in the Annexure "B" a statement on the matters specified in paragraphs 4 and 5 of the order, to the extent applicable.

- 2) As required under section 143(5) of the Companies Act, 2013, we give in the Annexure 'C', a revised statement on the Directions issued by Comptroller and Auditor General of India after complying with the suggested methodology of Audit, the action taken thereon and its impact on the accounts and financial statement of the Company.
- 3) With respect to the adequacy of the internal financial controls over financial reporting of the Company and the operating effectiveness of such controls, refer to our separate Report in Annexure 'D'.
- 4) As required by section 143 (3) of the Act, we report that:
 - a. We tried but could not obtain all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit.
 - b. In our opinion proper books of account as required by law have been kept by the Company so far as appears from our examination of those books except for the matter describe in Annexure 'A' of Basis of Qualified Opinion.
 - c. The Balance Sheet, Profit & Loss Account and Cash Flow Statement dealt with by this report, as per books of account made available to us; we are unable to comment whether these are in agreement with the books of account to the extent mentioned in para no. 1.02 to 1.19 of Annexure 'A'.
 - d. In our opinion, the aforesaid financial statements dealt with by this report does not comply with the Accounting Standards specified under the section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014; as mentioned in the Para no. 1.01 of Annexure 'A'.
 - e. Since section 274 (1) (g) of the companies Act, 1956 is not applicable to the Government Companies, question of reporting on disqualification on Directors does not arise.
 - f. With respect to the matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditors) Rules, 2014, in our opinion and to the best of our information and according to the explanations given to us.



- i. The Company has neither disclosed in significant accounting policies and notes on accounts (Note-19) nor details of pending litigations provided by the management as on March 31, 2016.
- ii. As per information and explanation given by the management the Company did not have any long-term contracts including derivative contracts for which there were any material foreseeable losses.
- iii. As per information and explanation given by the management there has been no delay in transferring amounts, required to be transferred, to the Investor Education and Protection Fund by the Company.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

ERN: 000681C

Pradeep Kumar
(Pradeep Kumar)

Partner

M.No. 453020

UDIN: 22453020BEYYD



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Annexure-"A" to the Independent Auditor's Report
(Refer to in para-4, under 'Basis of Qualified Opinion' of our Report of even
date on accounts for the year ended 31st March, 2016)

1.01 In the following cases, the different accounting standards issued by the
institute of chartered accountants of India have not been followed: -

- (a) Accounting Standard-1 to the extent stated in Point No. 2 (Basis of
accounting) of Note No. -19 to the Accounts.
- (b) The Company has not disclosed the accounting policies followed in the
valuation of stock. This is contrary to the provisions of AS-2.
- (c) The Company has not disclosed the accounting policies followed in the
Accounting Standard-4 related to Contingencies and Events occurring
after Balance Sheet Date.
- (d) In absence of Fixed Assets register and depreciation has not been
charged as per Companies act 2013. This is contrary to the provisions
of Accounting Standard-10.
- (e) In absence of details accounting of Government Grants as per AS-12
could not be verified.
- (f) Accounting Standard-15 to the extent stated in Point No. 2 (Employee
Benefits) of Note No. -19 to the Accounts.
- (g) Accounting Standard-16 related to Borrowing Cost.
- (h) The Company has not disclosed the accounting policies Segment
Reporting. This is contrary to the provisions of Accounting Standard-
17.
- (i) The Company has not disclosed the accounting policies Related Party
Disclosures. This is contrary to the provisions of Accounting Standard-
18.
- (j) The Company has not disclosed the accounting policies Impairment of
Assets. This is contrary to the provisions of Accounting Standard-28
and
- (k) The Company has not disclosed the accounting policies Provisions,
Contingent Liabilities and Contingent Assets. This is contrary to the
provisions of Accounting Standard-29.
- (l) Details of any pending legal/disputed cases as on 31.03.2016 could not
be made available to us for our verification. Hence, we are unable to
comment about contingent liability; if any

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna



1.02 Financial statements of the company does not comply with following:

- (a) As per information and explanations produced by the company, many high value transactions of transactions of transfer of fund from / to Auto Sweep Term Deposit Accounts to / from Bank account, interest on Term Deposit, Receipt from Debtors/ Bihar State Power Holding Corporation, amount deducted by Bank towards TDS, Interest / Bank Charges debited by Bank not accounted in Bank Book and still outstanding in Bank Reconciliation Statement in some of the accounts. Bank reconciliation statement/Bank statement/Balance confirmation certificate in some of the bank accounts, Cash/Bank/Journal voucher (Supporting invoices/Bills and documents relating to expenses /income/loan documents, Cheque issue register and Statement of valuation of closing stocks (Source documents), physical verification Report of Fixed Assets, Physical verification report of Inventory have not been provided to us in the course of audit. Similarly, EMD refunded to Contractors were debited in different account and not adjusted with outstanding EMD Liability, Amount of Liability of Contractors credited in different account whereas advance to same contractor is outstanding in different account. Non-matching of Advance to Suppliers/ Contractors with Creditors account, Non-reconciliation and non adjustment of resultant errors, if any, of very high value of such Debit/Credit balances, non-maintenance of Age-wise details of very high value such balances, non maintenance of Fixed Assets Register, etc. Also in some of the cases closing balances reflected in books as on 31/03/2015 is different from opening balances reflected as on 01/04/2015. Considering all these above and also as reported in para-1.08(b), para-1.08(c) and para-1.11(h) below, in our opinion proper books of account as required by law have not been kept by the Company so far as appears from our examination of those books;
- (b) Schedules of Balance sheet (Assets & Liabilities) items could not be made available to us for verification.
- (c) In our opinion, the Balance Sheet and Statement of Profit and Loss have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent as applicable and except as stated above as well as elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).

1.03 as referred in Note no. 19 para-18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.

1.04 Going Concern Assumption: The accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.

1.05 Reserves and Surplus: ₹ (-) 2,28,30,64,855.61

(a) Reserve and Surplus includes Capital subsidy/ Grant in Aid ₹29,30,08,000.00 as on 31.03.2016. During the year no Capital subsidy/ Grant in Aid has been received under this head. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2 (Government Grants) of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in related projects resulting overstatement of Fixed Assets with corresponding overstatement of Capital subsidy/ Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.

(b) As per previous audit report for the Financial Year 2013-14 difference of ₹ 131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were reported. Reason and Correctness of this difference has not been explained to us.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Corporation



1.06 Long-term Borrowing: ₹ 10,14,10,24,283.36

- (a) Total loan from Government of Bihar as on 31.03.2016 comes to ₹ 223,08,99,000/-. Neither Sanctioned letter nor calculation sheet of interest of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 27,47,25,120.00 and penal interest amounting to ₹ 5,57,72,475.04 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.
- (b) Total loan from Government of Bihar under RIDF(NABARD) scheme as on 31.03.2016 comes to ₹ 2,43,33,83,000/-. Neither Sanctioned letter nor calculation sheet of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 23,24,68,265.00 and penal interest provided amounting to ₹ 6,08,34,575.02 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.
- (c) The Corporation has defaulted in repayment of Loan received from Govt. of Bihar under RIDF (NABARD) scheme and other Loans. In absence of calculation it could not be ascertained correctness of liability on account of penal interest for delayed repayment has been provided or not.
- (d) Long-term borrowing includes loan from Government of Jharkhand carrying same balance from previous year amounting to ₹5,00,00,000/-. No interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on loans, we are unable to offer out Comments on correctness of interest provided.

1.07 Fixed Assets: ₹ 1,55,34,44,468.16

- (a) Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard – 10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit

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& loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.

- (b) During the Financial year 2011-12 a sum of ₹ 27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper documents/ Title Deeds were not made available to us for verification.
- (c) Fixed Assets includes a sum of ₹ 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.
- (d) Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act., 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.
- (e) Fixed Assets also includes a sum of ₹ 1,35,82,177/- under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515/-, payment to consultant (BHIEL) for supervision of repair work amounting to ₹ 1,02,63,213/- and payment to other consultant for service charges, which was capitalized during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 amount should not be added to Fixed Assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (f) Fixed Assets also includes a sum of ₹ 1,23,71,057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where

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partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

(g) Fixed Assets also includes a sum of ₹ 72,76,511/- being the amount of Entry Tax related to procurement of goods during the financial year 2007-08 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is ₹ 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

(h) Fixed Assets also includes a sum of ₹ 36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection Charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

(i) Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through running account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.

(j) Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and ₹ 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial year 2011-12 as Plant & Machinery and no final bill were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that

- capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (k) A sum of ₹ 9,242/- has also been noticed as addition to fixed assets in the financial year 2011-12 under office equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.
- (l) Fixed Assets does not includes a sum of ₹ 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, two vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of vehicle/advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of fixed assets, also understatement of Accumulated loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.
- (m) Fixed Assets does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non-Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.
- (n) Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in overstatement of fixed assets by ₹ 15,03,46,125/- as well a ₹ 73,64,292/- of loss for the year and Accumulated loss and understatement of Capital work in progress by ₹ 15,77,10,417/-.
- (o) Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the

existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.

- (p) Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial ear 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier year.
- (q) Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012-13 as Plant & Machinery and no final bills were raised by the contactor and it was treated as Capital work in progress in books of accounts of the until It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further no depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of capital work in progress.
- (r) Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of spares, maintenance expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

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Chief Engineer (E)
Sone Western Unit
Patna-800001




- (s) Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric Equipment at Belsar, ₹ 64,80,000/- Electric Equipment at Alwar, ₹ 32,13,800/- Electric Equipment and ₹ 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It was noticed that capitalization of assets was made in earlier year without adjustment of advance made to the contractor/ without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (t) Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹ 6,277/- at Belsar, ₹ 1,87,335/- at Arwal, ₹ 1,12,63,660/- at East Gandak, ₹ 25,80,820/- at Koshi ₹ 19,800/- at Sone Eastern and ₹ 46,952/- at Shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard A-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (u) Fixed Assets includes a sum of ₹ 47,31,729/- under Electric Installation at Dehri Unit, being the amount of adjustment of advance made to the contractor in earlier year/ balance payment of the contractor related to the project completed in earlier year but adjusted and capitalised during the financial year 2012-13. It includes many items which are revenue in nature and should have been charged to revenue expenditure. It was also noticed that major part of capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in

1.08 Capital Work in Progress: ₹ 5,56,72,98,533.28

- (a) Capital Work in Progress consists of Assets under construction/ installation/ acquisition amounting to ₹ 1,64,30,17,058.61 and Development Expenditure including borrowing cost amounting to ₹ 3,92,42,81,474.67. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922.00 and ₹ 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.
- (b) Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation in Financial Year 2013-14. Reason of negative balance could not be explained.
- (c) Project Status of 26 under construction units could not be made available to us. In many under construction units amount appearing since long without any Progress. transactions during the year comprise only allocation of interest, head office expenses and depreciation only. In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above.
- (c) In absence of detail, amount outstanding under the head Project Report Survey and consultancy Charges/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.
- (d) We have noticed that in compliance of Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilization of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as income of the Head Office. It is Contrary to the Accounting Standard-16

overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.

- (v) *Fixed Assets also includes a sum of ₹ 27,604/- under Office Equipment at Head Office during the Financial Year 2013-14, which comprises of cost of Battery, Key Board, Pen Drive etc., which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (w) *Fixed Assets also includes a sum of ₹ 63,252.00 under Electric Installation at (Shrikhinda unit and Sone Western unit) during the Financial Year 2014-15, which comprises of cost of Battery, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (x) *Fixed Assets also includes a sum of ₹ 53,723.00 under Other Equipments at Sone Western unit during the current Financial Year, which comprises of cost of Battery & Spare parts, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*

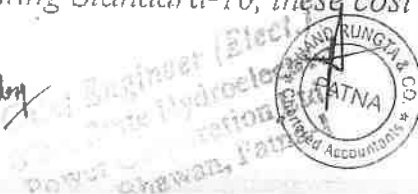

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"Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.

- (e) Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.
- (f) We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as theses papers were not made available to us.
- (g) Capital-Work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.
- (h) Capital work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the year without any allocation of the Unit.
- (i) Capital Wok in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.
- (j) A sum of ₹ 52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and S.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost

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should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.

- (k) Capital Work in Progress for the financial year 2013-14 includes a sum of ₹ 2,83,91,502/- which has been reflected as the cost of Land after transfer of ₹ 1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque / refund of advances, which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.

In absence of project status report, subsidiary ledger, RA bills and other relevant documents, we could not verify it and unable to comment on the correctness of the above figures.

1.09 Inventories: ₹ 1,25,91,445.59

- (a) It includes ₹ 53,41,210.56 being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilized but in absence of necessary documents it remains unadjusted.
- (b) Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires though technical review of the position of non-moving/ obsolete /unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.
- (c) Inventories includes a sum of ₹ 23,895.68 being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹ 67,787.11 Considering it's future usability, in our opinion theses should be charged to revenue.
- (d) Capital Stores and Stationery items ₹67,78,250.80 and ₹ 3,24,908.84 respectively same balance is outstanding since opening. During the current financial year no entry for purchase and consumption of stationary was passed under this account head.

In absence of inventory register and relevant documents, we could not verify it and unable to comment on the correctness of the above figures.

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1.10 Trade Receivables: ₹ 26,23,55,588.00

Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y. 2010-11 clearly reflects a huge gap between the outstanding realizable amount in books of Corporation (₹ 1,757.10 Lakh) and is not realizable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to kataiya Project, we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.

1.11 Cash & Bank Balance: ₹ 1,05,75,20,024.64

- (a) Public Ledger Account with SBI Secretariat Branch amounting ₹ 31,78,97,620.00 outstanding since preceding year. As per information given by the management this account was not operated since long but statement & confirmation certificate related to Public Ledger Account was not produced before us.

In absence of account statement and confirmation certificate, we could not verify it and unable to comment on the correctness of the above figures.

- (b) Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many bank Accounts of Units and One Bank Account of Head Office were not operated since many years.

Bank Reconciliation Statement have not been made available to us:

Name of Bank	Balance as on 31.03.2016
Bank of India (HO)	60,79,04,837.05 Dr.
Bank of India (Tax Account)	35,984.00 Cr.

B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (HO)	21,14,410.05 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI-Madhepura	3,04,024.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	9,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.

Bank Statement have not been made available:

Name of Bank	Balance as on 31.03.2016
Bank of India (Tax Account)	35,984.00 Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	21,14,410.05 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI-Madhepura	3,04,024.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	9,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.

Balance Confirmation Certificate have not been made available:

Name of Bank	Balance as on 31.03.2016
Bank of India (HO)	60,79,04,837.05 Dr.
Bank of India (Tax Account)	35,984.00 Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	21,14,410.05 Dr.
State Bank of India (HO)	13,14,039.77 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
Bank of India (Sakchi)	34,71,032.96 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
S.B.I (Koshi)	22,760.50 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.

SBI-Madhepura	3,04,024.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadhi)	9,112.00 Dr.
SBI Triveni Link	1,60,760.00 Dr.
SBI (Valmikinagar)	16,67,369.05 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.

- (c) In Case of Operating Bank Accounts, in some cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit, TDS deducted by Bank, fund received from Sundry Debtor (South Bihar Power Distribution Company Limited), (Bihar State Power holding Corporation) were not recorded and are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.
- (d) Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us. Also in Bank Reconciliation Statement a large number of high value transactions of transfer from Current Account to / from Auto Sweep Account from / to current account were noticed as un-responded by the Company. It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.
- (e) Stamp in hand amounting to ₹ 12,686/- same balance carried since previous year. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. Copy of physical verification as on 31.03.2016 could not made available to us for our verification.

In absence of relevant documents/proper details, we could not verify it and unable to comment on the correctness of the above figures.

- (f) Calculation sheet of interest provision was not available.
- (g) Cash balance in fraction of paise indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.

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Chief Engineer (Elect.)
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- (h) Cash in hand balance includes negative balance of ₹ 5,629/- at chandil Unit. It clearly indicates that accounting entries were passed without considering the physical verification of assets as Cash in Hand cannot be negative. This has also resulted into understatement Cash and Bank Balance and overstatement of current liabilities.
- (i) No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income / interest accrued as well as balances in short term deposit.

1.12 Short-term Loans & Advances: ₹ 62,35,61,702.45

- (a) Advance Recoverable in cash includes ₹ 48.51 crore advances to suppliers/contractors and ₹ 0.18 crore other recoverable from contractors/ employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance / advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc., which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.
- (b) Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206.00, Advance for Advertisement ₹ 3,15,555.00, Guest house Rent (Pre-Paid Expenses) ₹ 10,000.00, L.T.C. Advance ₹ 16,223.02, T.A. Advance ₹ 15,66,892.48, Legal Advance ₹ 1430931.00, Transfer Travelling Advance ₹ 36918.62, Consultancy Advance ₹ 1,15,250/-, Temporary Advance ₹ 48,73,623.26, Leave Salary ₹ 3,021.50 etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.
- (c) Loans and Advances include a sum of ₹ 82,57,552.41 towards advance to staff comprising ₹ 63,045.44 towards Salary Advance, ₹ 75,977.30 towards marriage advance, ₹ 73,269.80 towards House

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Building Advance, ₹2,18,057.00 towards Medical Advance and Pay Advance ₹ 1,95,708.00 etc., where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employee were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances.

- (d) Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source, etc being ₹ 2,21,85,105.96 considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non-refund could not be explained.
- (e) During the year a sum of ₹ 60,92,917.00 has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹6,09,33,417.00. it seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹ 36,780/- received in preceding Financial Year not linked with proper account. In absence of FD ledger/FD statements/interest calculation sheet and other related documents we could not verify it and unable to comment on the correctness of the above figures.
- (f) Advance for land acquisition amounting to ₹ 5,00,000/- outstanding since long remains to be adjusted/ recovered.
- (g) Loans and advances includes a sum of ₹ 43,17,462.10 receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the department, we are unable to offer our comments on realisibility of this amount and resulting loss.
- (h) Balances of Ranchi Project Office and Inter Unit current account to ₹3,98,884.87 outstanding since long remain to be reconciled.

1.13 Current Liabilities:

Trade Payables: ₹1,67,91,570.91 and Other Current Liabilities: ₹21,16,20,763.46

- (a) Sundry Creditors amounting to ₹ 1,67,91,570.91 consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts

By *Chief Engineer (Elect.)*
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appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.

- (b) Nature of ₹ 1,15,00,000/- shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.
- (c) Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No expenses were recognized for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by ₹1,94,224/-.
- (d) Current Liabilities include a sum of ₹ 4,90,432/- being amount of Audit Fee Payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Year and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non-compliance of Schedule-III to the Companies Act., 2013. Also the differential amount of Audit Fee for the Year has resulted into understatement/overstatement of loss as well as liability which are in absence of proper information cannot be quantified.

1.14 Profit & Loss Account: ₹ (-) 25,35,18,124.95

- (a) (i) The Expenditure under Employee Benefit Expenses (Note-15) ₹24,30,938.00, Other Expenses (Note-16) ₹2,85,44,024.72, Interest & Finance Charges (Note-17) ₹36,27,16,173.37, Depreciation (Note-18) ₹3,57,635.21 has been transferred to Capital Work In Progress (Note-7). The basis of allocation/calculation sheet of expenses transfer to Capital Work In Progress could not made available to us for our verification.
- (ii) A sum of ₹ 2,85,44,024.72 transfer to Capital Work In Progress (Note-7) from Other Expenses (Note-16). Which transfer amount is higher than total expenditure under this head of ₹ 1,98,23,945.20. Therefore negative balance shown of ₹ 87,20,079.52 in Profit & Loss Account under Other Expenses (Note-16). In absence of relevant

documents and proper details, we could not verify it and unable to comment on the correctness of the above figures.

(iii) In the head of Employee Benefit Expenses (Note-15) and Other Expenses (Note-16) Transfer to Capital Work in Progress showing Schedule 9 instead of Note-7.

(iv) The top sheet of Profit & Loss Account Showing Schedule in instead of Note; although its Schedule part mentioned as Note No.

(b) In absence of details of Bank Reconciliation Statements for many Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.

(c) Agreement with South Bihar Power Distribution Company Limited was not available to verify the rate at which sale of energy is made to them.

(d) The Corporation was contributing to Life insurance policy for Gratuity liability of it's Employees. During the current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it.

(e) No mercantile system of accounting was followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.

(f) Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Schedule III of the Companies Act, 2013.

1.15 Deviation from Schedule-III to the Companies Act, 2013: The Financial Statement prepared by the company has not followed Schedule-III to the Companies Act, 2013 properly. Security Deposit Paid and Advances given to contractors for capital works were not treated as capital advance, under Long Term Loans & Advances. Similarly Liabilities were not properly disclosed under current and Non Current Liabilities and even EMD, Securities Deposit received were treated as Current Liabilities.

1.16 Disclosures:

(a) The Company has not separately disclosed additional information in the Financial Statements as required by Notification No. GST 494(E) dated 30th October, 1973 as well as required under Schedule -III to the Companies Act, 2013 related to Sales, Employee Remuneration, Audit Expenses Prior Period Expenses, Export Turnover and other non monetary disclosure.

- (b) The management has not furnished the following information although required to be disclosed by way of a note to the accounts:
Claims against the Company not acknowledged as debts.
Estimated amount of contracts remaining to be executed on capital account and not provided for.
- (c) Particular of Advance: The Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.
- 1.17. As explained Kosi Kayaiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferor related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.
- 1.18 Figures mentioned in the Financial Statements did not used any Symbol. Further, figures as appearing in Financial Statements have not been Rounded off as required in Schedule III of the Companies Act'2013.
- 1.19 Observations / qualifications made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants
FRN: 000681C

Pradeep Kumar
(Pradeep Kumar)
Partner
M.No. 453020



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhaban, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

**ANNEXURE-B TO THE AUDITORS' REPORT ON THE ACCOUNTS
FOR THE YEAR ENDED 31ST MARCH, 2016 (Referred to in paragraph '1'
of our report of even date)**

1. In respect of its fixed assets:
 - a. *The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.*
 - b. *As explained the fixed assets have not been physically verified by the management during the year.*
2. In respect of its inventories
 - a. *The inventories have not been physically verified during the year by the management. Clause (b) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.*
 - b. *This Clause of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.*
 - c. *The company has not maintained proper record of its inventory.*
3. The Company has not granted nay loans, secured or unsecured to companies, firms or other parties. Accordingly, paragraph 3(iii)(a) & (b) of the Order is not applicable.
4. *In our opinion, there are reasonable internal control system commensurate with the size of the unit and nature of its business relating to purchase of inventory and fixed assets and for sale of energy and other services, however it needs to be strengthened in the area such as Project Cost incurred vis-à-vis value of Project as per DPR and it's approval from the Government, linking of credit and debit balances appearing in Bank Reconciliation, linking of advances to Contractors / supplier with liabilities, proper reconciliation and adjustment of advances, awarding of Contract of Projects, distribution of Mobile phones to employees and it's control, etc. As per our test checks, there is no serious continuing failure to correct major weakness in internal control system.*

5. *According to the information and explanations given to us, no deposits within the meaning of Sections 73 and 76 or any other relevant provision of the Companies Act, 2013 and rules framed there under has been accepted by the company*
6. *As explained to us, matter related to maintenance of cost records is not applicable to this company in view of the nature of its business.*
7.
 - a. *In absence of relevant returns and records it is not possible to comment upon regular deposit of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2016 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of investor education and protection fund, custom duty, excise duty and cess in view of its nature of business.*
 - b. *For the reason stated in sub-para 7(a) above, it is also not possible to mention the statutory dues of Sales Tax/Income Tax/Custom Duty/Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.*
 - c. *In absence of relevant documents we could not comment upon amount is required to be transferred to investor education and protection fund or not in accordance with the relevant provision of the Companies Act., 1956 and rules made there under.*
8. *The Accumulated loss of the Company ₹ 1,29,26,64,855.61 as on 31st March, 2016. The company has incurred cash losses during the current financial year covered by our audit and also in the immediately preceding financial year.*
9. *Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, or debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.*

ANAND RUNGTA & CO.
Chartered Accountants

Phone: 0612-3569253
405, Capitol Tower-B
Fraser Road
Patna-800001

10. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities.
11. The Company has not raised any money during the year by public issue.
12. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

FRN: 000681C

Pradeep Kumar
(Pradeep Kumar)

Partner

M.No. 453020



Hy

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna.

ANNEXURE- C

Referred to in Paragraph 2 of "Other Legal and Regulatory Requirements" of our Audit Report on the Statement of Directions & Additional directions under section 143(5) of the Companies Act, 2013 issued by Comptroller and Auditor General of India for the year 2015-16.

1. DISINVESTMENT

If the company has been selected for disinvestment, a complete status report in terms of valuation of Assets (including intangible assets and land) and liabilities (including Committed & General Reserves) may be examined including the mode and present stage of disinvestment process.

Not Applicable

2. WAIVER/ WRITE OFF OF DEBTS/LOANS/INTEREST ETC.

Whether there are any cases of waiver/write off of debts/loans/interest etc. if yes, the reasons there for and the amount involved.

No such cases found during the course of our Audit.

3. PROPER INVENTORIES RECORDS

Whether proper records are maintained for inventories lying with third parties and assets received as gift from Government or other authorities.

Referred Para No. 1.09 of our Audit Report.

4. PENDING CASES

A report on age-wise of pending legal/arbitration cases for the reasons of pendency and existence of a monitoring mechanism in all legal cases (foreign and local) may be given.

Referred Para No. 1.01(d) of our Audit Report.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

FRN: 000681C
Pradeep Kumar
(Pradeep Kumar)

Partner

M.No. 453020



Hg
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Annexure-"D" to the Independent Auditor's Report

(Referred to in paragraph 3 under 'Report on Other Legal and Regulatory Requirements' of our report of even date)

Report on the Internal Financial Controls over Financial Reporting under Clause (i) of Subsection 3 of section 143 of the Companies Act, 2013 ("The Act")

We have audited the internal financial controls over financial reporting of **BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED** ("the Company") as of March 31, 2016 in conjunction with our audit of the standalone financial statements of the Company for the year ended on that date.

Management's Responsibility for Internal Financial Controls

The Company's management is responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company considering the essential components of internal Financial Controls Over Financial Reporting (the "Guidance Note") issued by the Institute of Chartered Accountants of India. These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to Company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records and the timely preparation of reliable financial information, as required under the Companies Act, 2013.

Auditors' Responsibility

Our responsibility is to express an opinion on the Company's internal financial controls over financial reporting based on our audit. We conducted our audit in accordance with the Guidance Note and the Standards on Auditing prescribed under Section 143(10) of the Companies Act, 2013 to the extent applicable to an audit of internal financial controls. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate Internal financial control over financial reporting was established and maintained and if such controls operated effectively in all material respects.

Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system over financial reporting and their operating effectiveness. Our audit of internal financial controls over financial reporting included obtaining an understanding of internal financial controls over financial reporting assessing the risk that a material weakness exists, and testing and evaluating the design and operation effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bakawan, Patna-1



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the Company's internal financial controls system over financial reporting.

Meaning of Internal Financial Controls over Financial Reporting

A Company's internal financial control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A Company's internal financial control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that the receipts and payments of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls over Financial Reporting

Because of the inherent Limitations of internal financial controls over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls over financial reporting to future periods are subject to the risk that the internal financial control over financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, to the best of our information and according to the explanations given to us, the Company has, in all material respects, an adequate internal financial controls system over financial reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2016, based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

ERN: 000681C

Pradeep Kumar
(Pradeep Kumar)

Partner
M.No. 453020



Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD
Cash Flow Statement for the year ended 31st March, 2016

Particulars	For the year ended 31st March, 2016	For the year ended 31st March, 2015
A. CASH FLOW FROM OPERATING ACTIVITIES :		
Profit Before Tax as per P&L Statement	(253,518,125)	(300,800,421)
Adjustment For :		
Prior period adjustment	-	4,531,253
Depreciation	66,918,973	75,959,340
Interest Expenses	-	-
Operating Profit Before Working Capital Changes :	(186,599,152)	(220,309,828)
Working Capital Changes :		
Decrease/(Increase) in Trade Receivables, Loans and Advances	(66,212,367)	(35,224,885)
Change in inventories	(54,923)	2,717
Increase/(Decrease) in Trade Payables, Liabilities & Provisions	630,754,496	576,936,393
Cash Generated from Operations :	377,888,054	321,404,398
Net Cash Flows from/(used in) Operating Activities	377,888,054	321,404,398
B. CASH FLOW FROM INVESTING ACTIVITIES:		
(Purchase)/ Sale of fixed assets and changes in capital work in progress	(407,073,724)	(376,722,314)
Net Cash Flows from/(used in) Investing Activities	(407,073,724)	(376,722,314)
C. CASH FLOW FROM FINANCING ACTIVITIES:		
Loan from Bihar Govt. and NABARD	-	606,207,000
Capital subsidy	-	-
Interest Expenses	-	-
Net Cash Flows from/(used in) Financing Activities	-	606,207,000
D. NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS (A+B+C)	(29,185,670)	550,889,084
Cash and Cash Equivalents:		
Opening Balance	1,086,705,695	535,816,611
Closing Balance	1,057,520,025	1,086,705,695

Note : The above cash Flow Statement has been prepared under the indirect method as set out in Accounting Standard

(The accompanying notes are integral part of the financial statements)

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

D.I.N - 09467844

[Signature]
(Mahendra Kumar)
Managing Director

D.I.N - 09570771

In terms of Our Report of Even Date.
For ANAND RUNGTA & CO.
Chartered Accountants
FBN 000681C

Pradeep Kumar
Pradeep Kumar
(Partner)
M No. 453020



Place: PATNA

Date: 05.12.2022

[Signature]
Chief Engineer (Elec)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2016

PARTICULARS	Note	As at 31.03.2016	As at 31.03.2015
<u>EQUITY AND LIABILITIES</u>			
<u>Shareholders' Funds</u>			
Share Capital	1	990,400,000.00	990,400,000.00
Reserves and Surplus	2	(2,283,064,855.61)	(2,029,546,730.67)
<u>NON- CURRENT LIABILITIES</u>			
Long-term borrowings	3	10,141,024,283.36	9,516,382,098.30
<u>CURRENT- LIABILITIES</u>			
Trade payables	4	16,791,570.91	16,262,262.91
(Dues of Micro Enterprises & Small Enterprises - Nil)			
Other current liabilities	5	211,620,763.46	206,037,761.01
		9,076,771,762.12	8,699,535,391.55
<u>ASSETS</u>			
<u>Non-current assets</u>			
<u>Fixed Assets</u>			
Gross Block	6	2,697,888,716.28	2,697,834,993.28
Less : Depreciation		1,144,444,248.12	1,077,167,640.38
Net Block		1,553,444,468.16	1,620,667,352.90
Capital work-in-progress	7	5,567,298,533.28	5,159,920,896.97
<u>Current assets</u>			
Inventories	8	12,591,445.59	12,536,522.99
Trade Receivables	9	262,355,588.00	254,288,756.00
Cash & Bank Balances	10	1,057,520,024.64	1,086,705,695.04
Short-term loans & advances	11	623,561,702.45	565,416,167.65
		9,076,771,762.12	8,699,535,391.55

Significant Accounting Policies and Notes on Accounts:-

19

(The accompanying notes are integral part of the financial statements)

(Signature)
(Khushboo)
Company Secretary

(Signature)
Director

(Signature)
(Mahendra Kumar)
Managing Director

D.I.N.-09462844

In terms of Our Report of Even Date, D.I.N.-09570771
For ANAND RUNGTA & CO.
Chartered Accountants
FRN 000681C

Place: PATNA
Date: 05.12.2022

(Signature)
Pradeep Kumar
(Partner)
M No. 453020



(Signature)
Chief Engineer (Elec.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

STATEMENT OF PROFIT & LOSS FOR THE YEAR ENDED 31ST MARCH, 2016

PARTICULARS	Schedule	Current Year	Previous Year
INCOME			
Revenue from operations	12	82,571,557.00	81,656,229.00
Other Income	13	66,063,601.00	25,479,857.00
Total Revenue		148,635,158.00	107,136,086.00
EXPENDITURE			
Cost of material consumed	14	17,998,921.00	26,444,274.00
Employee benefit expenses	15	64,871,207.25	60,095,977.00
Other Expenses	16	(8,720,079.52)	(5,380,223.15)
Total Expenses		74,150,048.73	81,160,027.85
Earning before interest and tax		74,485,109.27	25,976,058.15
Financial costs	17	261,084,261.69	250,817,138.69
Depreciation & Amortisation Exp.	18	66,918,972.53	75,959,340.24
Profit/(Loss) before tax		(253,518,124.95)	(300,800,420.78)
Tax expense:			
Current tax		-	-
Deferred tax		-	-
Total tax expenses		-	-
Profit/(Loss) after tax		(253,518,124.95)	(300,800,420.78)
Earning per equity share		(255.98)	(303.72)
Basic & Diluted (Nominal value per share of ₹ 1000/-)			
Weighted Average Number of Equity Shares (Basic & Diluted)		990,400.00	990,400.00

Significant Accounting Policies and Notes on Accounts:

19

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

D.I.N.-09462844

In terms of Our Report of Even Date.

For ANAND RUNGTA & CO.

Chartered Accountants

FRN 000681C

[Signature]
Pradeep Kumar

(Partner)

M No. 453020

[Signature]
(Mahendra Kumar)
Managing Director

D.I.N.-09570771

Place:

PATNA

Date:

05.12.2022



[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
NOTES FORMING PART OF BALANCE SHEET
for the year ended 31st March, 2016

Note: 1 SHARE CAPITAL

Particulars	As at 31st March, 2016		As at 31st March, 2015	
	Number of share	Amount Rs.	Number of share	Amount Rs.
Authorised				
Equity shares of Rs.1000/- each	1000000	1000000000	1000000	1000000000
Issued, Subscribed and fully paid up				
Equity shares of Rs.1000/- each	990400	99040000	990400	99040000
	990400	99040000	990400	99040000

(ii) Share Capital Reconciliation

Particulars	As at 31st March, 2016		As at 31st March, 2015	
	Number of Shares	Amount	Number of Shares	Amount
Opening Balance	990400	990400000	990400	990400000
Add:- Fresh Issue				
Closing Balance at the year end	990400	990400000	990400	990400000

(iii) Details of shares held by shareholders holding more than 5% of the aggregate shares in the company.

Name of Shareholders	As at 31st March, 2016		As at 31st March, 2015	
	Number of Shares	% of Holding	Number of Shares	% of Holding
Governor of Bihar	683371	69.00%	683371	69.00%
Governor of Jharkhand	307023	31.00%	307023	31.00%



Khushbu
Company Secretary
 Bihar State Hydro Electric
 Power Corp. Ltd
 PATNA

[Signature]
Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

D.I.N.-09452844

[Signature]
Managing Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

D.I.N.-09570771

[Signature]
Chief Engineer (Elect)
 Bihar State Hydroelectric
 Power Corporation Ltd
 Sonu Shrivastava, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Notes annexed to and forming parts of account

for the year ended 31st March, 2016

Particulars	As at 31.03.2016	As at 31.03.2015
Note: 2		
RESERVE & SURPLUS		
Surplus / (Deficit)		
Capital Subsidy		
As per last account	293,008,000.00	293,008,000.00
Addition during the year		
(A)	293,008,000.00	293,008,000.00
Profit in Statement of Profit and Loss		
Opening balance	(2,322,554,730.66)	(2,026,285,562.89)
Prior Period Adjustment		4,531,253.00
Add: Profit / (Loss) for the year	(253,518,124.95)	(300,800,420.78)
Closing balance	(B) (2,576,072,855.61)	(2,322,554,730.67)
Total(A+B)	(2,283,064,855.61)	(2,029,546,730.67)

Note: 3

Long term borrowings

From Government of Bihar

Principal	2,230,899,000.00	2,230,899,000.00
Interest accrued	3,022,415,519.69	2,746,848,649.69
Penal Interest	1,134,148,760.58	1,078,376,285.54
	6,387,463,280.27	6,056,123,935.23

From Government of Jharkhand

	50,000,000.00	50,000,000.00
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From Government of Bihar under RIDF (NABARD) Scheme

Principal	2,433,383,000.00	2,433,383,000.00
Interest accrued	1,078,824,281.62	846,356,016.62
Penal Interest	191,353,721.47	130,519,146.45
	3,703,561,003.09	3,410,258,163.07

	10,141,024,283.36	9,516,382,098.30
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Notes :

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2009-10 loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.



K. S. Chandra
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

J. N. Chandra
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

J. N. Chandra
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

- 6 During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 7 During the Year 2011-12 Loan of Rs. 336342000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 10 new projects and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 8 During the year 2011-12 loan of Rs. 19607000 received from Government of Bihar for 2 new projects namely Sipha and Dehra and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 9 During the Year 2012-13 Loan of Rs. 109924000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 04 new projects namely Bathnaha, Nirmali, Sipha and Dehri Escape Channel and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 10 During the Year 2012-13 Loan of Rs. 139799000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 02 new projects namely Arrarghat and Dehri Escape Channel and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 11 During the year 2012-13 loan of Rs. 33670000.00 received from Government of Bihar for Arrarghat Project and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 12 During the year 2012-13 loan of Rs. 11000000.00 received from Government of Bihar for Dagmara Project and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 13 During the Year 2013-14 Loan of Rs. 167883000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 03 new projects namely Nirmali, Bathnaha phase-I and Dehra is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 14 During the year 2013-14 loan of Rs. 150000000.00 received from Government of Bihar for V. Nagar Escape and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Note: 4

TRADE PAYABLES

Acceptances and small enterprises
Other than acceptances
Supply Creditors

	16,791,570.91	16,262,262.91
Total	16,791,570.91	16,262,262.91

Khush...
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09570771

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Some B...



D.I.N.-09462844

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 5

OTHER CURRENT LIABILITIES

Liabilities for expenses	35,195,261.41	31,908,530.41
Other Liabilities	3,264,111.55	3,117,097.35
Income Tax deducted at source	(30,336.56)	(182,881.41)
Security Deposits	55,817,870.99	54,032,213.79
Deductions from Contractors	31,214,536.17	28,894,998.97
Royalty	6,895,550.75	6,895,550.75
Sales Tax	(40,905,282.45)	(40,723,135.45)
VAT	(2,500.00)	(500.00)
Service Tax	(1,078,028.00)	(239,135.00)
Grant in Aid		
Irrigation Department	11,500,000.00	11,500,000.00
Group Gratuity Payable	177,421.00	177,421.00
Group Gratuity Scheme	127,133.00	1,212,625.00
AID for RGGVY (DDO)	109,492,500.00	109,492,500.00
Suspense	(47,524.40)	(47,524.40)
	<u>211,620,763.46</u>	<u>206,037,761.01</u>

Note: 8

INVENTORIES

Capital Stores	6,778,250.80	6,778,250.80
Materials issued to contractors	5,396,603.16	5,341,680.56
Stationery Items	324,908.84	324,908.84
Exide Battery	23,895.68	23,895.68
Stock Suspense	67,787.11	67,787.11
	<u>12,591,445.59</u>	<u>12,536,522.99</u>

Note: 9

TRADE RECEIVABLES

(Unsecured, considered good)

Debts outstanding for a period exceeding six months

Other debts

	37,290,568.00	23,969,371.00
	<u>225,065,020.00</u>	<u>230,319,385.00</u>
	<u>262,355,588.00</u>	<u>254,288,756.00</u>

Note: 10

CASH AND CASH EQUIVALENTS

Balance with Scheduled Banks in Current Account	725,603,111.00	754,770,561.40
Short Term deposits with bank	13,931,739.87	13,931,739.87
PL Account with SBI Secretariat Branch	317,897,620.00	317,897,620.00
Cash on hand	74,867.77	93,087.77
Cheques in hand		
Stamps in hand	12,686.00	12,686.00
	<u>1,057,520,024.64</u>	<u>1,086,705,695.04</u>

Note: 11

SHORT TERM LOAN AND ADVANCES

(Unsecured, considered good)

Advances receivable in cash or in kind	493,400,226.33	496,184,015.55
Advance - Tax Deposit	28,278,022.96	22,185,105.96
Recoverables	1,766,247.17	1,765,929.37
Prepaid Expenses - Insurance	10,000.00	10,000.00
Receivables - Energy Dept. Govt of Bihar	4,317,462.10	4,317,462.10
Interest Accrued on Fixed Deposits	94,878,859.00	40,042,770.00
Security Deposit - BSEB (TB)	12,000.00	12,000.00
Security Deposit - (Telephone)		
Advance for land acquisition	500,000.00	500,000.00
Ranchi Project Office	238,066.00	238,066.00
Inter Unit Current Account	160,818.87	160,818.87
	<u>623,561,702.45</u>	<u>565,416,167.65</u>

K. K. Sharma
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.

PATNA

J. N. Singh
Director

Bihar State Hydroelectric
Power Corporation Ltd.

PATNA
J.I.N.-09462844

M. J. Singh
Managing Director

Bihar State Hydroelectric
Power Corporation Ltd.

PATNA



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 12

REVENUE FROM OPERATIONS

Sale of Electricity

82,571,557.00	81,656,229.00
82,571,557.00	81,656,229.00

Note: 13

Other Income

Interest - Fixed Deposits

60,933,417.00	24,466,094.00
---------------	---------------

Interest - Other

Interest - House Building Advance

431,130.00	406,430.00
------------	------------

Interest - Marriage Advance

4,500.00	6,800.00
----------	----------

Interest - Motor Cycle Advance

20,640.00	28,695.00
-----------	-----------

Recovery of Electricity

43,961.00	49,321.00
-----------	-----------

House Rent

4,222,717.00	140,472.00
--------------	------------

Insurance Claim

0.00	0.00
------	------

Recovery of Materials

0.00	0.00
------	------

Sale of Tender Paper

345,000.00	325,600.00
------------	------------

Miscellaneous Income

62,236.00	56,445.00
-----------	-----------

66,063,601.00	25,479,857.00
---------------	---------------

Note: 14

Cost of material consumed

Operation and Maintenance of Power House

Operation and Maintenance

17,998,921.00	26,444,274.00
---------------	---------------

17,998,921.00	26,444,274.00
---------------	---------------

Note: 15

Employee Benefit Expenses

Managing Director's Remuneration

Salary & Allowance

67,302,145.25	62,399,631.00
---------------	---------------

Group Gratuity Scheme Exp

67,302,145.25	62,399,631.00
---------------	---------------

Transfer to Capital Work in Progress (Schedule 9)

2,430,938.00	2,303,654.00
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Total	64,871,207.25	60,095,977.00
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K. N. Singh
Company Secretary

Bihar State Hydro Electric
Power Corp Ltd
PATNA

D.I.N.-09462844

M. S. Singh
Managing Director
Bihar State Hydro Electric
Power Corporation Ltd
PATNA

D.I.N.-09570771

M. S. Singh
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd
Bane Bhabian, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 16

Other Expenses

Administrative and Management Expenses

DLI and P.F. Administrative charges	424,036.00	413,072.00
Uniform and Liveries	19,732.85	101,484.55
Reimbursement of Medical & Educational Expenses	556,668.00	566,454.00
Auxiliary Consumption		3,198,292.00
Rent	3,986,687.00	3,842,732.00
Electricity	1,313,841.00	1,195,568.00
Travelling & Conveyance	235,634.00	1,182,258.00
Petrol, Oil & Lubricants	1,219,187.00	1,317,754.00
Insurance	55,387.00	55,914.00
Advertisement		1,239,339.00
Telephone & Telex Charges	442,086.37	538,157.56
Internet Expenses		
Printing & Stationary	265,723.00	276,704.00
Postage	1,822.00	24,092.00
Conference and Seminar		
Bank Charges	685.98	1,887.70
Repairs - Vehicles	70,232.00	203,136.00
Repairs - Building	101,544.00	351,412.00
Repairs - Plant	4,947,401.00	2,095,711.00
Repairs - Other	554,484.00	2,582,603.00
Hire & Rental Charges	683,605.00	912,767.00
Licence & Registration Fee	14,036.00	95,981.00
Consultancy/Legal & Professional fees	822,879.00	633,124.00
D.P.R Expenses		
Statutory Auditors Fee		
Internal Auditors Fee		36,944.00
Tax Audit Fees		20,319.00
Entertainment	87,811.00	151,471.00
Survey & Investigation	0.00	0.00
News Paper	11,894.00	14,648.00
Transportation Charges	40,405.00	5,555.00
Grant for Purchase of Computer	0.00	0.00
Donation & Subscription		
Plantation	0.00	0.00
wages to security	306,500.00	0.00
Trans. & Transfer Loss	0.00	382,595.00
Miscellaneous Expenses	3,661,664.00	1,321,539.60
Transfer to Capital Work in Progress (Schedule 9)	19,823,945.20	22,761,514.41
	28,544,024.72	28,141,737.56
Total	(8,720,079.52)	(5,380,223.15)

Note: 17

Interest & Finance Charges

Interest on Term Loans

Government of Bihar	274,725,120.00	267,799,747.00
Penal Interest on Govt Loan	55,772,475.04	53,272,475.04
Government of Bihar -RIDF (NABARD)	232,468,265.00	204,384,178.03
Penal Interest on NABARD Loan	60,834,575.02	48,179,400.02
	623,800,435.06	573,635,800.09
Transfer to Capital Work in Progress	(362,716,173.37)	(322,818,661.40)
	261,084,261.69	250,817,138.69

Note: 18

Depreciation

As per Schedule 4

Transferred as a prior period adjustment

Transfer to Capital Work in Progress

67,276,607.74	76,321,944.09
(357,635.21)	(362,603.85)
66,918,972.53	75,959,340.24



Khan Rana
Company Secretary

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 6
FIXED ASSETS

Sl. NO.	P A R T I C U L A R S	GROSS BLOCK			DEPRECIATION			NET BLOCK	
		As at 01.04.2015	Addition during the year	Deduction during the year	As at 31.03.2016	During the year	Adjustment	As at 31.03.2016	As at 31.03.2015
1	Land - Freehold	20,411,326.53	-	0.00	20,411,326.53	0.00	0.00	20,411,326.53	20,411,326.53
2	Land - Leasehold	185,800.00	-	0.00	185,800.00	0.00	0.00	185,800.00	185,800.00
3	Buildings - Residential	15,303,457.67	0.00	0.00	15,303,457.67	2,89,194.63	0.00	12,414,263.04	12,560,848.22
4	Buildings - Non Residential	15,497,300.09	0.00	0.00	15,497,300.09	8,148,164.34	0.00	7,349,135.75	7,349,135.55
5	Buildings - Sheds	729,825.55	0.00	0.00	729,825.55	0.00	0.00	729,825.55	0.00
6	Roads & Bridges	43,671,017.07	0.00	0.00	43,671,017.07	51,81,269.36	0.00	313,865.87	5,495,135.23
7	Water Supply Installation	190,280.36	0.00	0.00	190,280.36	6,031.89	0.00	136,427.22	59,885.03
8	Electric Installation	260,923,449.90	0.00	0.00	191,694,435.47	36,17,273.07	0.00	195,311,708.54	69,229,014.43
9	Plant & Machinery	1,028,400,563.03	0.00	0.00	1,028,400,563.03	2,44,75,935.40	0.00	613,841,433.63	638,317,367.03
10	Power House	1,267,408,321.96	0.00	0.00	407,311,778.42	3,01,64,322.82	0.00	829,932,420.72	860,096,743.54
11	Furniture & Fixtures	4,108,400.11	0.00	0.00	4,108,400.11	4,03,661.93	0.00	335,865.07	999,527.00
12	Office Equipments	7,732,906.59	0.00	0.00	7,732,906.59	9,18,669.30	0.00	5,417,065.58	3,234,510.31
13	Other Equipments	23,172,113.94	53,723.00	0.00	21,118,413.81	14,27,585.50	0.00	626,114.63	1,999,977.13
14	EPDS Machine	540,350.00	0.00	0.00	317,940.90	51,335.25	0.00	369,283.15	222,400.10
15	Tools	440,148.46	0.00	0.00	332,609.48	1,07,445.98	0.00	440,145.46	107,448.98
16	Vehicles	3,945,504.46	0.00	0.00	3,945,504.46	1,32,262.64	0.00	3,675,108.88	402,658.22
17	Bicycles	11,223.14	0.00	0.00	11,218.20	0.00	0.00	11,218.20	4.94
18	Computers	2,095,941.52	0.00	0.00	2,095,940.40	0.00	0.00	2,095,940.40	1.12
19	Other Assets	120,585.90	0.00	0.00	65,016.36	10,359.56	0.00	75,375.92	55,569.54
	Total :-	2,697,834,993.28	53,723.00	-	2,697,888,716.28	67,276,607.74	-	1,144,444,248.12	1,620,667,352.90
	Previous Year :-	2,697,031,441.28	807,736.00	4,184.00	2,697,834,993.28	76,321,944.09	0.00	1,077,167,640.38	1,696,185,744.99



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

[Signature]
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-

D.I.N.-09462844

D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Notes 6
FIXED ASSETS

FIXED ASSETS		GROSS BLOCK				DEPRECIATION			NET BLOCK	
Sl. NO.	PARTICULARS	As at 01.04.2015	Addition during the year	Deduction during the year	As at 31.03.2016	As at 01.04.2015	During the year	Adjustment	As at 31.03.2016	As at 31.03.2015
1	Land - Freehold	20,411,326.53	-	0.00	20,411,326.53	0.00	0.00	0.00	20,411,326.53	20,411,326.53
2	Land - Leasehold	185,800.00	-	0.00	185,800.00	0.00	0.00	0.00	185,800.00	185,800.00
3	Buildings - Residential	18,303,457.67	0.00	0.00	18,303,457.67	5,742,629.45	2,89,194.63	0.00	6,031,804.08	12,271,653.59
4	Buildings - Non Residential	15,497,396.69	0.00	0.00	15,497,396.69	8,148,164.54	4,91,264.41	0.00	8,639,428.95	7,349,135.55
5	Buildings - Sheds	729,825.55	0.00	0.00	729,825.55	729,825.55	0.00	0.00	729,825.55	0.00
6	Roads & Bridges	43,671,617.67	0.00	0.00	43,671,617.67	38,175,881.84	51,81,269.36	0.00	43,351,151.20	5,495,135.23
7	Water Supply Installation	196,280.36	0.00	0.00	196,280.36	130,365.33	6,031.89	0.00	136,427.22	59,885.03
8	Electric Installation	269,523,445.65	0.00	0.00	269,523,445.65	191,694,435.47	36,17,275.07	0.00	195,311,708.54	69,229,014.43
9	Plant & Machinery	1,028,408,563.03	0.00	0.00	1,028,408,563.03	390,681,196.00	2,44,75,935.40	0.00	414,559,129.40	613,841,433.63
10	Power House	1,267,408,521.96	0.00	0.00	1,267,408,521.96	407,311,178.42	3,01,64,322.82	0.00	437,476,101.24	860,096,743.54
11	Furniture & Fixtures	4,108,400.11	0.00	0.00	4,108,400.11	3,168,873.11	4,03,667.93	0.00	3,572,535.04	939,527.00
12	Office Equipments	7,732,906.59	0.00	0.00	7,732,906.59	4,485,386.28	9,18,669.30	0.00	5,417,065.58	3,234,310.31
13	Other Equipments	23,118,390.94	53,723.00	0.00	23,172,113.94	21,118,413.81	14,27,585.50	0.00	22,545,999.31	1,999,977.13
14	IT/ITX Machine	540,350.00	0.00	0.00	540,350.00	317,946.90	51,335.25	0.00	369,283.15	222,400.10
15	Books	440,148.46	0.00	0.00	440,148.46	333,689.48	1,07,445.98	0.00	440,145.46	107,448.98
16	Vehicles	3,945,504.46	0.00	0.00	3,945,504.46	3,542,846.24	1,32,262.64	0.00	3,675,108.88	402,658.22
17	Bicycles	11,223.14	0.00	0.00	11,223.14	11,216.20	0.00	0.00	11,218.20	4.94
18	Computers	2,995,941.52	0.00	0.00	2,995,941.52	2,095,940.40	0.00	0.00	2,095,940.40	1.12
19	Other Assets	120,585.99	0.00	0.00	120,585.99	65,016.36	10,359.56	0.00	75,375.92	55,569.54
Total :-		2,697,834,993.28	53,723.00	-	2,697,888,716.28	1,077,167,640.38	67,276,607.74	-	1,553,444,468.16	1,620,667,352.90
Previous Year :-		2,697,031,441.28	807,736.00	4,184.00	2,697,834,993.28	1,000,845,696.29	76,321,944.09	0.00	1,620,667,352.90	1,696,185,744.99



Khushbu
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

Sanjay
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Sanjay
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Sanjay
Chief Engineer (Elec)
Bihar State Hydroelectric
Power Corporation Ltd
Gone Bhowan, Patna-1

D.I.N.-09462844

D.I.N.-09570771

CAPITAL WORK IN PROGRESS

A. Assets under construction/installation

Sl. NO	PARTICULARS	As at 01.04.2015	Addition during the year	Deduction during the year	As at 31.03.2016
1	Building	7,651,514.24	-	-	7,651,514.24
2	Generating Equipments	123,966,561.89	-	-	123,966,561.89
3	Power House	139,315,147.11	-	-	139,315,147.11
4	Transformer (Sub-Station Equipments)	5,236,595.73	-	-	5,236,595.73
5	Auxiliary & Ancillary Equipments	409,542.00	-	-	409,542.00
6	Road & Bridges	9,067,794.41	-	-	9,067,794.41
7	Water Supply Installation	1,164,233.42	-	-	1,164,233.42
8	Intake Gates	5,812,325.74	-	-	5,812,325.74
9	Generating Set	114,594.24	-	-	114,594.24
10	Expenses on Investigation	552,005.05	-	-	552,005.05
11	Power/Esc. Channel	37,524,050.13	-	-	37,524,050.13
12	Excavation Work-in-Progress	243,680.00	-	-	243,680.00
13	Transmission System	10,016,050.09	-	-	10,016,050.09
14	Fencing Wall	22,724.00	-	-	22,724.00
15	Rock Excavation Allow Pen Stock	5,889,944.20	-	-	5,889,944.20
16	Tail & Tunnel	17,293,114.70	-	-	17,293,114.70
17	Micro Hydro Set	814,029.00	-	-	814,029.00
18	Dewatering of Pit	9,717,966.00	-	-	9,717,966.00
19	Construction of Store & Godown	730,116.00	-	-	730,116.00
20	Designing & Drawing	465,500.00	-	-	465,500.00
21	Land Acquisition	4,378,205.00	-	-	4,378,205.00
22	AMETHI				
	Power House(Amethi)	28,792,028.45	-	-	28,792,028.45
	Construction of E/M Amethi	28,284,869.28	-	-	28,284,869.28
	Construction of Switchyard (Amethi)	779,190.00	-	-	779,190.00
	Const. of Non Residential Building (Amethi)	1,285,605.00	-	-	1,285,605.00
	E/M Equipment (Amethi)	1,315,318.00	-	-	1,315,318.00
23	ARRARHAT				
	Land-Arrarhat	553,490.00	-	-	553,490.00
24	ARWAL				
	Construction of E/M Arwal	59,670.00	-	-	59,670.00
	Power House (Arwal)	222,073.00	-	-	222,073.00
	Electric Equipment(Arwal)	(4,330,311.00)	-	-	(4,330,311.00)
	Fabrication(Arwal)	(871,981.00)	-	-	(871,981.00)
	Switchyard(Arwal)	0.00	-	-	0.00
25	BELSAR				
	Power House(Belsar)	-	-	-	-
	Construction of E/M Belsar	-	-	-	-
	Electric Equipment (Belsar)	(9,976,904.90)	-	-	(9,976,904.90)
	switchyard(Belsar)	-	-	-	-
26	JALIM GHAGR				
	Power House(Jalim)	19,306,480.00	-	-	19,306,480.00
27	RAJAPUR				
	Plant & Machinery (Rajapur)	3,014,184.00	-	-	3,014,184.00
	Power House (Rajapur)	42,614,229.00	-	-	42,614,229.00
	Construction of E/M Paharna	43,299,618.60	-	-	43,299,618.60
	Const. of P.H (Pharna)	3,055.00	-	-	3,055.00
28	LGP				
	Power House (LGP)	14,240,389.43	-	-	14,240,389.43
29	RAMPUR				
	Power House(Rampur)	14,162,608.73	-	-	14,162,608.73
	Construction of E/M Rampur	11,290,201.00	-	-	11,290,201.00
30	NATWAR				
	Power house (Natwar)	14,421,149.00	-	-	14,421,149.00
	Bot Crane (Natwar)	1,426,000.00	-	-	1,426,000.00
	Electric Equipment(Natwar)	4,964.00	-	-	4,964.00
	Const. of P.H (Natwar)	3,424,884.00	-	-	3,424,884.00
	Construction of E/M Natwar	2,970,194.92	-	-	2,970,194.92
31	NINDI				
	Power House (Nindi)	852,489.00	-	-	852,489.00
32	PHARMA				
	Power House (Pharna)	27,075,398.00	-	-	27,075,398.00
33	SDP				
	Power House (SDP)	23,260,103.66	-	-	23,260,103.66



K. S. Mishra
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
Patna

Dipendra
Bihar State Hydroelectric
Power Corporation Ltd.

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
D.I.N.-09570771

D.I.N.-094628004

34	DEHRA				
	Const. of EM - Dehra	37,694,808.00	-	-	37,694,808.00
	Power House (Dehra)	46,942,961.00	-	-	46,942,961.00
35	TB				
	Electric Installation (TB)	1,623,795.00	-	-	1,623,795.00
	Power House (TB)	1,086,354.00	-	-	1,086,354.00
36	TEJPURA				
	Power House (Tejpura)	58,689,808.00	-	-	58,689,808.00
	Transmission Line-Tejpura	188,000.00	-	-	188,000.00
	switchyard (Tejpura)	2,213,314.00	-	-	2,213,314.00
	Construction of E/M (Tejpura)	24,278,768.84	-	-	24,278,768.84
	Const. of PH (Tejpura)	6,454,838.00	-	-	6,454,838.00
	Const. of SLR Bridge	1,634,213.00	-	-	1,634,213.00
	Const. of DLR Bridge	798,289.00	-	-	798,289.00
37	WALIDAD				
	Power House (Walidad)	25,937,702.00	-	-	25,937,702.00
	Transmission Line (Walidad)	1,424,322.00	-	-	1,424,322.00
	Construction of Electric Equipment (Walidad)	14,815,567.72	-	-	14,815,567.72
38	BARBAL				
	Power House (Barbal)	21,151,377.00	-	-	21,151,377.00
	Land-Barbal	3,647,400.00	-	-	3,647,400.00
39	BATHNAHA				
	Power House (Bathnaha)	77,016,129.00	-	-	77,016,129.00
	Land-Bathnaha	13,324,086.00	-	-	13,324,086.00
	Construction of E/M (Bathnaha)	21,905,606.00	-	-	21,905,606.00
	Tools & Plant-Bathnaha	50,903.00	-	-	50,903.00
40	DAGMARA				
	Const. of P.H - Dagmara	11,726,820.00	-	-	11,726,820.00
	Preparation Of physical Model	10,769,196.00	-	-	10,769,196.00
41	MATHAULI				
	Power House (Mathauli)	33,880,337.00	2,246,465.00	-	36,126,802.00
	Const. of E/M Equipment (Mathauli)	18,497,047.00	-	-	18,497,047.00
	Land-Mathauli	1,643,750.00	-	-	1,643,750.00
	Construction of Power Chancel (Mathauli)	6,289,083.00	-	-	6,289,083.00
42	NIRMALI				
	Power House (Nirmali)	175,817,029.00	-	-	175,817,029.00
	Const. of E/M of Equipment - Nirmali	10,824,000.00	-	-	10,824,000.00
	Land-Nirmali	8,075,785.00	-	-	8,075,785.00
43	SONE WESTERN				
	Const. of power house (SW)	1,376,041.00	-	-	1,376,041.00
44	SIPHA				
	Const. of E/M (Shipha)	34,842,499.00	-	-	34,842,499.00
	Power House (Sipha)	37,811,711.00	1,196,224.00	-	39,007,935.00
	Const. of Bridge (Shipha)	1,258,003.00	-	-	1,258,003.00
45	KATANIA				
	Power House (Katania)	29,112,564.00	-	-	29,112,564.00
	Land-Katania	1,694,473.00	-	-	1,694,473.00
46	TRIVENI				
	Land - Triveni	(1,019,922.00)	-	-	(1,019,922.00)
47	SADANI				
	Land - Sadani	1,270,800.00	-	-	1,270,800.00
48	JAINAGRA				
	Construction of E/M Jainagra	(10,373,276.00)	-	-	(10,373,276.00)
49	PHARMA				
	Construction of E/M Pharma	43,160,939.00	-	-	43,160,939.00
	Const. of P.H (Pharma)	4,288,718.00	-	-	4,288,718.00
	Land (pharma)	256,500.00	-	-	256,500.00
50	CHANDIL				
	Construction of E/M (Chandil)	99,926,658.58	-	-	99,926,658.58
51	NORTH KOEL				
	Foundation Erection	25,647,213.00	-	-	25,647,213.00
	Construction of Pen Stock	587,542.00	-	-	587,542.00
	Foundation	54,978.00	-	-	54,978.00
	Construction of E/M (North Koel)	83,412,950.45	-	-	83,412,950.45
	Total A	1,639,574,369.61	3,442,689.00	-	1,643,017,058.61
	Previous Year	1,628,575,176.61	10,999,193.00	-	1,639,574,369.61



Khushboo
Chief Engineer (Elect.)
Bihar State Hydroelectric Power Corporation Ltd.

Director
 Bihar State Hydroelectric Power Corporation Ltd.
 PATNA

Chief Engineer (Elect.)
 Bihar State Hydroelectric Power Corporation Ltd.
 PATNA

Managing Director
 Bihar State Hydroelectric Power Corporation Ltd.
 PATNA

D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 4 -

3. Development Expenditure

Sl. No.	PARTICULARS	As at 01.04.2015	Addition during the year	Deduction during the year	As at 31.03.2016
1	Project Report Survey & Consultancy Charges	26,323,543.46	0.00	0.00	26,323,543.46
2	Preliminary Expenses - Projects	92,777,511.82	0.00	0.00	92,777,511.82
3	New Project Expenses	503,546.00	0.00	0.00	503,546.00
4	Development Expenditure as per last account	632,703,539.38	0.00	0.00	632,703,539.38
5	Development Expenditure (Detail of addition given below)				
	Ambedkar	34,770,677.55	4,328,648.85	0.00	39,099,326.40
	Arwal	-	0.00	0.00	-
	Arrahat	-	0.00	0.00	-
	Barhal	47,098,842.00	21,357,830.00	0.00	68,456,672.00
	Bahadur	33,787,860.00	7,692,202.98	0.00	41,480,062.98
	Belhar	290,445,270.59	97,813,043.00	0.00	388,258,313.59
	Begha	-	0.00	0.00	-
	Berhampur	191,357.00	0.00	0.00	191,357.00
	Bhagalpur	124,142.00	0.00	0.00	124,142.00
	Bhojpur	564,301,461.06	33,109,905.63	0.00	597,411,366.69
	Buxar	200,775,731.45	31,297,070.72	0.00	232,072,802.17
	Chhapra	34,861,165.00	7,688,758.00	0.00	42,549,923.00
	Chirang	47,390,856.71	21,089,325.29	0.00	68,480,182.00
	Chhapra	289,142.00	0.00	0.00	289,142.00
	Chhapra	21,607,653.89	1,550,000.00	0.00	23,157,653.89
	Chhapra	39,243,383.00	9,547,468.00	0.00	47,790,851.00
	Chhapra	13,033,671.22	790,511.75	0.00	13,824,182.97
	Chhapra (North Koel)	27,914,988.00	7,275,264.00	0.00	35,190,252.00
	Chhapra	740,916,616.18	16,898,479.42	0.00	757,815,095.60
	Chhapra	2,271,126.00	647,327.00	0.00	2,918,453.00
	Chhapra	20,394,395.34	2,612,921.34	0.00	23,007,316.68
	Chhapra	1,624,112.93	92,124.25	0.00	1,716,237.18
	Chhapra	21,609,227.47	1,550,000.00	0.00	23,159,227.47
	Chhapra	165,744,069.47	82,088,489.00	0.00	247,832,558.47
	Chhapra	196,736.00	27,500.00	0.00	224,236.00
	Chhapra	57,155,821.16	7,113,121.63	0.00	64,268,942.79
	Chhapra	37,520,036.63	4,394,119.90	0.00	41,914,156.53
	Chhapra	20,511,662.74	2,700,036.31	0.00	23,211,719.05
	Chhapra	30,602,966.50	1,976,315.50	0.00	32,579,282.00
	Chhapra	52,842,389.69	21,635,378.66	0.00	74,477,768.35
	Chhapra	2,423,286.91	0.00	0.00	2,423,286.91
	Chhapra	81,698,906.00	9,791,505.35	0.00	91,490,411.35
	Chhapra	87,155,778.26	4,992,546.17	0.00	92,148,324.43
	Chhapra	38,719,486.29	4,875,034.56	0.00	43,594,520.85
	Chhapra	2,717,222,819.04	403,934,947.31	-	3,121,157,766.35
	Chhapra - Bihar Government	18,365,881.13	0.00	0.00	18,365,881.13
	Chhapra - Bihar Government (New Projects)	37,577.00	0.00	0.00	37,577.00
	Chhapra - NABARD	26,894,138.00	0.00	0.00	26,894,138.00
	Chhapra - Head Office	2,797,453.53	0.00	0.00	2,797,453.53
	Chhapra - Maintenance of PH (SW)	2,722,518.00	0.00	0.00	2,722,518.00
	Chhapra	3,520,346,527.36	403,934,947.31	-	3,924,281,474.67
	Chhapra	4,783,639,331.16	376,281,365.81	-	5,159,920,696.97
	Chhapra	5,159,920,696.97	407,377,636.31	-	5,567,298,333.28



K. K. Singh
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

[Signature]
Managing Director,
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09570771

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Detail of Development Expenditure (Net)

	2015-16	2014-15
1 INCOME		
Interest on FD	-	-
Sale of Tender Paper/BOQ	0.00	0.00
Interest on Motorcycle Adv	0.00	2,150.00
Interest on HBA	0.00	12,090.00
Recovery of Electricity	-	-
Recovery of House Rent	0.00	0.00
Intt. On Marriage advance	0.00	0.00
Recovery of Penalty	0.00	0.00
Misc Income	4,402.00	15,477.00
Total 1	4,402.00	29,627.00
2 EXPENDITURE		
Salary & Allowance	6,428,707.00	5,485,403.00
Wages Contingent Staff	677,894.00	3,197,409.00
Uniform & Liveries	0.00	1,640.00
Medical Expense	38,790.00	1,59,487.00
Survey & Investigation	0.00	9,60,678.00
Rent	97,500.00	1,03,600.00
Travelling & Conveyance	28,030.00	46,988.00
Telephone & Telex Charges	5,480.00	12,210.00
Printing & Stationary	30,286.00	4,105.00
Postage	2,587.00	1,412.00
Petrol, Oil & Lubricants	1,61,214.00	2,13,946.00
Electricity Charges	0.00	8,873.00
Bank Commission	0.00	0.00
Repairs & Maintenance	13,35,679.00	68,122.00
Transportation/Freight & Carriage Charges	0.00	13,820.00
Insurance	0.00	0.00
Hire Charges of Vehicle	1,16,377.00	2,30,667.00
Preparation of DPR	0.00	0.00
Preparation of E-TDS	0.00	4,075.00
Consultancy/Legal Expenses	15,360.00	1,58,428.00
Entertainment	12,437.00	4,400.00
Interest on Government of Bihar Loan	9,50,23,748.56	9,58,65,498.36
Interest on Government of Bihar Loan -RIDF (NABARD)	19,88,79,576.59	17,07,05,489.62
Penal Interest on Bihar Govt loan	1,87,24,134.33	1,87,24,134.33
Newspaper	0.00	898.00
Penal Interest on NABARD loan	5,00,88,714.09	3,24,33,530.00
Miscellaneous Expenses	47,887.00	76,833.00
Administrative & Management Expenses (HO) - Allocated	2,85,44,024.72	2,81,41,737.56
Salary Allocated - Other Projects	24,30,938.00	23,03,654.00
Depreciation	3,57,635.21	3,62,603.85
Total 2	403,097,599.30	364,379,055.81
NET (2-1)	403,093,197.30	364,349,428.81

Koushik
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844



[Signature]
Chartered Accountant
Anand Rupak & Co.
Patna

D.I.N.-09570777

[Signature]
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

<u>Advances receivable in cash or in kind</u>	<u>31.03.2016</u>	<u>31.03.2015</u>
Advance to staff/officers	8,279,552.41	9,598,864.81
Advance to suppliers	383,506,989.55	387,039,723.90
Advance to contractors	101,613,684.39	99,545,426.84
Net Debit	493,400,226.35	496,184,015.55

<u>Recoverables</u>		
Electricity recoverable from contractors	1,746,807.57	1,746,807.57
Electricity recoverable from employee	19,439.60	19,121.60
	1,766,247.17	1,765,929.17

<u>Sundry Creditors</u>		
Sundry Creditors	665,459.73	665,459.73
Unpaid Contractor	13,667,217.00	13,137,909.00
Creditor for capital store	2,458,894.18	2,458,894.18
	16,791,570.91	16,262,262.91

<u>Liabilities for expenses</u>		
Outstanding salary	11,517,524.35	8,875,417.35
Unpaid salary	397,702.50	377,164.50
Unpaid Honorarium	515.00	515.00
Outstanding rent	354,110.00	742,667.00
Outstanding other expenses	17,286,840.00	16,277,797.00
Outstanding audit fee	490,432.00	490,432.00
Outstanding electricity charges	99,856.00	96,256.00
Outstanding computerisation account	835,488.00	835,488.00
Provision For Exp	4,059,248.00	4,059,248.00
Unpaid SE	19,071.00	19,071.00
Unpaid SW	7,988.00	7,988.00
Consultancy Charges payable	15,000.00	15,000.00
Liability for store CH	111,486.56	111,486.56
	35,195,261.41	31,908,530.41

<u>Other Liabilities</u>		
Salary deduction	(660,903.78)	(807,917.98)
Recovery effected but not remitted	381,458.40	381,458.40
AO SRP Ranchi	15,930.81	15,930.81
Earth quake relief fund	5,552.00	5,552.00
EE Mech Div IRRIG Dept	124,307.49	124,307.49
National Defence Fund	5,044.96	5,044.96
CPE/PPF/GI	107,102.77	107,102.77
Recovery of bank guarantee	350,579.90	350,579.90
Guarantee Fee	622,500.00	622,500.00
Recovery From Energy Deptt	(18,500.00)	(18,500.00)
Testing & Commissioning	2,331,039.00	2,331,039.00
	3,264,111.55	3,117,097.35

<u>Security Deposits</u>		
Contractors	51,354,342.59	50,022,952.09
EM - Contractors	4,463,528.40	4,009,261.70
	55,817,870.99	54,032,213.79

<u>Deductions from contractors</u>		
Performance Guarantee	(2,668,122.00)	(2,668,122.00)
Keep Back	4,210,272.91	4,115,358.71
Time Extension	23,382,938.09	23,506,352.09
Other recovery from Contractors	311,877.00	311,877.00
EPF Contractor - With held		
With held	4,772,890.00	2,424,793.00
Misc Deposit - Contractors	1,204,740.17	1,204,740.17
	31,214,586.17	28,894,998.97

<u>TDS</u>		
Contractors	458,639.44	317,189.59
Salary	(488,976.00)	(500,071.00)
	(30,336.56)	(182,881.41)

K. Krishnan
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

[Signature]
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09452844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd
PATNA
D.I.N.-09570771

[Signature]
Chief Engineer
Bihar State Hydroelectric
Power Corporation Ltd
Sone Bhawan, Patna-1



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE: 19

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHHPCL") for the year ended March 31, 2016. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 2013 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to the Accounting Standards referred to in sub-section (3C) of section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent applicable, except as elsewhere.

Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Inventories

Inventories comprising of stores and spares as existing at the year end, are valued at cost.

Bihar State Hydroelectric
Power Corporation Ltd.

D.I.N.-09462844

Managing Director

Bihar State Hydroelectric
Power Corporation Ltd.
D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Tangible Fixed Assets, Depreciation and Amortization:

Tangible Fixed assets are stated at cost of acquisition/construction less disposal/ depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

Capital Work in Progress

- a. Capital work in progress includes:
- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production,
 - ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
 - iii. expenditure incurred on start-up and commissioning of the project, including expenditure incurred on test run, and
 - iv. borrowing cost.
- b. The advances given to the Contractors for "Turnkey Basis Projects" are progressively capitalised on the basis of the running bills submitted by the Contractors.

Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE: 19

Significant Accounting Policies and Notes on Accounts

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2. Significant Accounting Policies:

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Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.

**Bihar State Hydroelectric
Power Corporation Ltd.**

D.I.N.-09462844

Managing Director

D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1996-1997. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loans under respective projects.



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

Apportionment of Head Office Expenses

- i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

Taxes on Income

- i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- ii. In view of uncertainty of future taxable income no deferred tax resulting from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006.

Earnings Per Share

Basic earnings per share is computed by dividing the profit/ (loss) after tax by the weighted average of equity shares outstanding during the year.

**Bihar State Hydroelectric
Power Corporation Ltd.**
PATNA

D.I.N.-09462844

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
D.I.N.-09570771

Company Secretary
Bihar State Hydroelectric
Power Corp. Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. these are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

- 3 Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.
- 4 The Assets and Liabilities , if any, after takeover of management of Koshi Kataiya Unit is yet to be accounted for, i.e. the assets and Liabilities are yet to be handed over to the Corporation. However, major renovation expenses have been done by the Corporation during the year and Capitalised during the year.
- 5 Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

6 Bank Accounts

Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.

Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements . Balance confirmations from banks remain to be obtained.

It includes balances of inoperative accounts remain to be confirmed.

- 7 No Capital Grant received during the Financial Year.
- 8 There was no employee in the Corporation during the year getting remuneration exceeding Rs. 60,00,000/- p.a. or Rs. 5,00,000/- monthly (P.Y. Rs. 60,00,000/- per year or Rs. 5,00,000/- monthly) for a part of the year.

Kishore
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

9. Since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
10. Final Settlement with Power Finance Corporation amounting to 1362.00 Lakhs has been treated as Interest as interest for Financial Year 2011-12.
11. Interest on Short Term Deposits at Head Office has not been considered for Apportionment and allocation on the Projects.
12. In terms of Ministry of Corporate Affairs Notification No GSR 463(E) dated 05.06.2015, Government Companies are exempted from applicability of provision of section 164(2) of the Companies Act, 2013.
13. In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31 St March, 2016 did not exceed Rs. 50 Crores, Accounting Standard 03, 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.
14. Amount of Contingent Liabilities not quantifiable on account of
 - tax demands including interest and penalties
 - penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities
15. The material issued to contractors, claim recoverable, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.
16. The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing
17. Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).

K. S. Choudhary
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

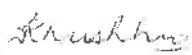
[Signature]
Chief Engineer (Elect)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna

D.I.N.-09462844

D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

18. The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organization Act, 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final calculation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.
19. In the opinion of the Board and to the best of their knowledge belief, the value of realisation of current and other assets in the ordinary course of business will not be less than the amount at which they are stated in the Balance Sheet.
20. Treatment for Service Tax is as per opinion obtained by the Management from it's Service Tax Consultant.
21. Previous Years Figures for Financial Year 2014-15 have been re-classified / re-arranged / re-stated and regrouped to make them comparable with figures for current year being Financial Year 2015-16.


(Khushboo)
Company Secretary


Director


(Mahendra Kumar)
Managing Director

D.I.N.-09462844

D.I.N.-09570771

Place: Patna

Date: 05.12.2022




For the Managing Director
Bihar State Hydroelectric Power Corporation Ltd.
Bhagalpur, Bihar.

BIHAR STATE HYDROELECTRIC
POWER CORPORATION LIMITED,
PATNA

STATUTORY AUDIT REPORT
FOR THE FINANCIAL YEAR 2014-15

AUDITOR'S
M/S ANAND RUNGTA & COMPANY
Chartered Accountants,
405, CAPITOL TOWER-B
FRASER ROAD,
PATNA-800001
Tel. #0612-2332406

Chief Executive Officer (C.E.O.)
Bihar State Hydroelectric
Power Corporation Limited
Bhagalpur, Patna-1

INDEPENDENT AUDITOR'S REPORT

We have audited the accompanying financial statements of Bihar State Hydroelectric Power Corporation Limited, which comprise the Balance Sheet as at March 31, 2015; the Statement of Profit and Loss and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements:

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to the preparation and presentation of these financial statements that give a true and fair view of the financial position, financial performance and cash flows of the Company in accordance with the accounting principles generally accepted in India, including the Accounting Standards specified under Section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the Company and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility:

Our responsibility is to express an opinion on these financial statements based on our audit. We have taken into account the provisions of the Act, the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made there under.

We conducted our audit in accordance with the Standards on Auditing specified under Section 143(10) of the Act. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.



An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Company's preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Company has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Company's Directors, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

Qualified Opinion:

In our opinion and to the best of our information and according to the explanations given to us, except for the effects of the matter described in the basis Qualified Opinion the aforesaid financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India including the financial position of the Company as at 31st March, 2015, its financial performance and its cash flows for the year ended on the date.

Basis for Qualified Opinion:

As per annexure "A"

Report on other Legal and Regulatory Requirements:

- 1) As required by the Companies (Auditor's Report) Order, 2015 ("the Order"), as amended, issued by the Central Government of India in terms of sub-section (11) of section 143 of the Act, we give in the Annexure "B" a statement on the matters specified in paragraphs 4 and 5 of the order, to the extent applicable.



- 2) As required under section 143(5) of the Companies Act, 2013, we give in the Annexure 'C', a revised statement on the Directions issued by Comptroller and Auditor General of India after complying with the suggested methodology of Audit, the action taken thereon and its impact on the accounts and financial statement of the Company.
- 3) With respect to the adequacy of the internal financial controls over financial reporting of the Company and the operating effectiveness of such controls, refer to our separate Report in Annexure 'D'.
- 4) As required by section 143 (3) of the Act, we report that:
 - a. We tried but could not obtain all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit.
 - b. In our opinion proper books of account as required by law have been kept by the Company so far as appears from our examination of those books except for the matter describe in Annexure 'A' of Basis of Qualified Opinion.
 - c. The Balance Sheet, Profit & Loss Account and Cash Flow Statement dealt with by this report, as per books of account made available to us; we are unable to comment whether these are in agreement with the books of account to the extent mentioned in Para no. 1.02 to 1.19 of Annexure 'A'.
 - d. In our opinion, the aforesaid financial statements dealt with by this report does not comply with the Accounting Standards specified under the section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014; as mentioned in the Para no. 1.01 of Annexure 'A'.
*Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna-1*
 - e. Since section 274 (1) (g) of the companies Act, 1956 is not applicable to the Government Companies, question of reporting on disqualification on Directors does not arise.
 - f. With respect to the matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditors) Rules, 2014, in our opinion and to the best of our information and according to the explanations given to us.



- i. The Company has neither disclosed in significant accounting policies and notes on accounts (Note-19) nor details of pending litigations provided by the management as on March 31, 2015.
- ii. As per information and explanation given by the management the Company did not have any long-term contracts including derivative contracts for which there were any material foreseeable losses.
- iii. As per information and explanation given by the management there has been no delay in transferring amounts, required to be transferred, to the Investor Education and Protection Fund by the Company.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

PRN: 000681C
Pradeep Kumar
(Pradeep Kumar)
Partner

M.No. 453020

UDIN: 22453020BEYXFH



Hx
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Annexure- "A" to the Independent Auditor's Report

(Refer to in Para 4, under 'Basis of Qualified Opinion' of our Report of even date on accounts for the year ended 31st March, 2015)

1.01 *In the following cases, the different accounting standards issued by the institute of chartered accountants of India have not been followed: -*

- (a) Accounting Standard-1 to the extent stated in Point No. 2 (Basis of accounting) of Note No. -19 to the Accounts.*
- (b) The Company has not disclosed the accounting policies followed in the valuation of stock. This is contrary to the provisions of AS-2.*
- (c) The Company has not disclosed the accounting policies followed in the Accounting Standard-4 related to Contingencies and Events occurring after Balance Sheet Date.*
- (d) Absence of Fixed Assets register and depreciation has not been charged as per Companies act 2013. This is contrary to the provisions of Accounting Standard-10.*
- (e) In absence of details accounting of Government Grants as per AS-12 could not be verified.*
- (f) Accounting Standard-15 to the extent stated in Point No. 2 (Employee Benefits) of Note No. -19 to the Accounts.*
- (g) Accounting Standard-16 related to Borrowing Cost,*
- (h) The Company has not disclosed the accounting policies Segment Reporting. This is contrary to the provisions of Accounting Standard-17.*
- (i) The Company has not disclosed the accounting policies Related Party Disclosures. This is contrary to the provisions of Accounting Standard-18,*

- (j) The Company has not disclosed the accounting policies Impairment of Assets. This is contrary to the provisions of Accounting Standard-28 and
- (k) The Company has not disclosed the accounting policies Provisions, Contingent Liabilities and Contingent Assets. This is contrary to the provisions of Accounting Standard-29.
- (l) Details of any pending legal/disputed cases as on 31.03.2015 could not be made available to us for our verification. Hence, we are unable to comment about contingent liability; if any

1.02 Financial statements of the company do not comply with following:

- (a) As per information and explanations produced by the company, many high value transactions of transfer of fund from / to Auto Sweep Term Deposit Accounts to / from Bank account, interest on Term Deposit, Receipt from Debtors/ Bihar State Power Holding Corporation, amount deducted by Bank towards TDS, Interest / Bank Charges debited by Bank not accounted in Bank Book and still outstanding in Bank Reconciliation Statement in some of the accounts. Bank reconciliation statement/Bank statement/Balance confirmation certificate in some of the bank accounts, Cash/Bank/Journal voucher (Supporting invoices/Bills and documents relating to expenses /income/loan documents, Cheque issue register and Statement of valuation of closing stocks (Source documents), physical verification Report of Fixed Assets, Physical verification report of Inventory have not been provided to us in the course of audit. Similarly, EMD refunded to Contractors were debited in different account and not adjusted with outstanding EMD Liability, Amount of Liability of Contractors credited in different account whereas advance to same contractor is outstanding in different account. Non-matching of Advance to Suppliers/ Contractors with Creditors account, Non-reconciliation and non adjustment of resultant errors, if any, of very high value of such Debit/Credit balances, non-maintenance of Age-wise details of very high value such balances, non maintenance of Fixed Assets Register, etc. Also in some of the cases closing balances reflected in books as on 31/03/2014 is different from opening balances reflected as on 01/04/2014. Considering all these above and also as reported in Para 1.08(b), Para 1.08(c) and Para 1.11(h) below, in our opinion proper books of account as required by law have not been kept

by the Company so far as appears from our examination of those books;

(b) Schedules of Balance sheet (Assets & Liabilities) items could not be made available to us for verification

(c) in our opinion, the Balance Sheet and Statement of Profit and Loss have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent as applicable and except as stated above as well as elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).

1.03 as referred in Note no. 19 Para 18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.

1.04 Going Concern Assumption: The accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.

1.05 Reserves and Surplus: ₹ (-) 2,02,95,46,730.67

(a) Reserve and Surplus includes Capital subsidy/ Grant in Aid ₹29,30,08,000.00 as on 31.03.2015. During the year no Capital subsidy/ Grant in Aid has been received under this head. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2 (Government Grants) of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in

related projects resulting overstatement of Fixed Assets with corresponding overstatement of Capital subsidy/ Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.

- (b) As per previous audit report for the Financial Year 2013-14 difference of ₹ 131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were reported. Reason and Correctness of this difference has not been explained to us.

1.06 Long-term Borrowing: ₹ 9,51,63,82,098.30

- (a) During the year a sum of ₹10, 00,00,000/- has been received from Government of Bihar. Total loan as on 31.03.2015 comes to ₹ 223,08,99,000/-. Neither Sanction letter nor calculation sheet of interest of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 26,77,99,747.00 and penal interest amounting to ₹ 5,32,72,475.04 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.
- (b) During the year a sum of ₹ 50,62,07,000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2015 comes to ₹2,43,33,83,000/-. Neither Sanction letter nor calculation sheet of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 20,43,84,178.03 and penal interest provided amounting to ₹ 4,81,79,400.02 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.
- (c) The Corporation has defaulted in repayment of Loan received from Govt. of Bihar under RIDF(NABARD) scheme and other Loans. In absence of calculation it could not be ascertained correctness of liability on account of penal interest for delayed repayment has been provided or not.

- (d) Long-term borrowing includes loan from Government of Jharkhand carrying same balance from previous year amounting to ₹5,00,00,000/-. No interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on loans, we are unable to offer out Comments on correctness of interest provided.
- (e) During the year 2014-15 loan taken by the corporation not mentioned in Note: 3.

1.07 Fixed Assets: ₹ 1,62,06,67,352.90

- (a) Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard – 10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.
- (b) During the Financial year 2011-12 a sum of ₹27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper documents/ Title Deeds were not made available to us for verification.
- (c) Fixed Assets includes a sum of ₹ 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.
- (d) Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act., 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income

Handwritten signature



Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.

- (e) *Fixed Assets also includes a sum of ₹1,35,82,177/- under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹27,98,515/-, payment to consultant (BHEL) for supervision of repair work amounting to ₹1,02,63,213/- and payment to other consultant for service charges, which was capitalized during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 amount should not be added to Fixed Assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (f) *Fixed Assets also includes a sum of ₹1, 23, 71,057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (g) *Fixed Assets also includes a sum of ₹72,76,511/- being the amount of Entry Tax related to procurement of goods during the financial year 2007-08 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is*

₹80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

- (h) Fixed Assets also includes a sum of ₹36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection Charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (i) Fixed Assets includes a sum of ₹58,50,642/- being the amount paid through running account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.
- (j) Fixed Assets includes a sum of ₹25,74,696/- (Construction of Escape Regulator) and ₹15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial year 2011-12 as Plant & Machinery and no final bill were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.

- (k) A sum of ₹9,242/- has also been noticed as addition to fixed assets in the financial year 2011-12 under office equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.
- (l) Fixed Assets does not includes a sum of ₹5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, two vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of vehicle/advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of fixed assets, also understatement of Accumulated loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.
- (m) Fixed Assets does not include a sum of ₹25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non-Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.
- (n) Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in overstatement of fixed assets by ₹15,03,46,125/- as well a ₹73,64,292/- of loss for the year and Accumulated loss and understatement of Capital work in progress by ₹15,77,10,417/-.
- (o) Fixed Assets also includes a sum of ₹77,23,260/- under Jamnagar Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of

Accounting Standard AS-10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.

- (p) *Fixed Assets includes a sum of ₹41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial year 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier year.*
- (q) *Fixed Assets includes a sum of ₹4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012-13 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital work in progress in books of accounts of the until It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further no depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of capital work in progress.*
- (r) *Fixed Assets also includes a sum of ₹18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of spares, maintenance expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement*

of Accumulated Loss with consequential effect on charge of depreciation.

- (s) *Fixed Assets includes a sum of ₹2,69,86,270/- (₹86,72,658/- Electric Equipment at Agnoor, ₹80,42,114/- Electric Equipment at Belsar, ₹64,80,000/- Electric Equipment at Alwar, ₹32,13,800/- Electric Equipment and ₹5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It was noticed that capitalization of assets was made in earlier year without adjustment of advance made to the contractor/ without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (t) *Fixed Assets also includes a sum of ₹1,41,61,346/- (₹6,277/- at Belsar, ₹1,87,335/- at Arwal, ₹1,12,63,660/- at East Gandak, ₹25,80,820/- at Koshi ₹19,800/- at Sone Eastern and ₹46,952/- at Shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard A-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.*
- (u) *Fixed Assets includes a sum of ₹47,31,729/- under Electric Installation at Dehri Unit, being the amount of adjustment of advance made to the contractor in earlier year/ balance payment of the contractor related to the project completed in earlier year but adjusted and capitalised during the financial year 2012-13. It includes many items which are revenue in nature and should have been charged to revenue expenditure. It was also noticed that major*



part of capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.

(v) Fixed Assets also includes a sum of ₹27,604/- under Office Equipment at Head Office during the Financial Year 2013-14, which comprises of cost of Battery, Key Board, Pen Drive etc., which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

(w) Fixed Assets also includes a sum of ₹ 63,252.00 under Electric Installation at (Shrikhinda unit and Sone Western unit) during the Current Financial Year, which comprises of cost of Battery, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.

1.08 Capital Work in Progress: ₹ 5,15,99,20,896.97

(a) Capital Work in Progress consists of Assets under construction/ installation/ acquisition amounting to ₹1,63,95,74,369.61 and Development Expenditure including borrowing cost amounting to ₹3,52,03,46,527.36. Besides negative balance under the head of Land at Triveni amounting to ₹10,19,922.00 and ₹1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year.

Chief Engineer

Bihar State Hydroelectric
Power Corporation Ltd.



Reason of negative balance could not be explained. Capital Work in Progress includes ₹63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.

- (b) Negative balance under the head of Electric Equipment and Fabrication amounting to ₹52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation in Financial Year 2013-14. Reason of negative balance could not be explained.*
- (c) Project Status of 26 under construction units could not be made available to us. In many under construction units amount appearing since long without any Progress. Transactions during the year comprise allocation of interest, head office expenses and depreciation only. In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above.*
- (c) In absence of detail, amount outstanding under the head Project Report Survey and consultancy Charges/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.*
- (d) We have noticed that in compliance of Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilization of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as income of the Head Office. It is Contrary to the Accounting Standard-16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has*

Handwritten signature



resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.

- (e) *Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.*
- (f) *We have not gone through the Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as theses papers were not made available to us.*
- (g) *Capital-Work in Progress includes a sum of ₹6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.*
- (h) *Capital work in Progress includes a sum of ₹16, 70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the year without any allocation of the Unit.*
- (i) *Capital Wok in Progress includes a sum of ₹54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.*
- (j) *A sum of ₹52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and D.P.R. for new projects and it was also approved by the Board of*

Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.

- (k) *Capital Work in Progress for the financial year 2013-14 includes a sum of ₹2,83,91,502/- which has been reflected as the cost of Land after transfer of ₹1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque / refund of advances, which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.*

In absence of project status report, subsidiary ledger, RA bills and other relevant documents, we could not verify it and unable to comment on the correctness of the above figures.

1.09 Inventories: ₹ 1,25,36,522.99

- (a) *It includes ₹53,41,680.56 being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilized but in absence of necessary documents it remains unadjusted.*
- (b) *Inventories includes Capital Stores amounting to ₹67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete /unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.*
- (c) *Inventories includes a sum of ₹23,895.68 being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹67,787.11 Considering it's future usability, in our opinion theses should be charged to revenue.*
- (d) *Capital Stores and Stationery items ₹6778250.80 and ₹ 3,24,908.84 respectively same balance is outstanding since opening. During the*

current financial year no entry for purchase and consumption of stationary was passed under this account head.

In absence of inventory register and relevant documents, we could not verify it and unable to comment on the correctness of the above figures.

1.10 Trade Receivables: ₹ 25,42,88,756.00

Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y. 2010-11 clearly reflects a huge gap between the outstanding realizable amount in books of Corporation (₹1,757.10 Lakh) and is not realizable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to kataiya Project, we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.

1.11 Cash & Bank Balance: ₹ 1,08,67,05,695.04

- (a) Public Ledger Account with SBI Secretariat Branch amounting ₹ 31,78,97,620/- outstanding since previous year. As per information given by the management this account was not operated since long but statement & confirmation certificate related to Public Ledger Account was not produced before us.

In absence of account statement and confirmation certificate, we could not verify it and unable to comment on the correctness of the above figures.

- (b) Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many bank Accounts of Units and One Bank Account of Head Office were not operated since many years.

Bank Reconciliation Statement have not been made available to us:

Name of Bank	Balance as on 31.03.2015
Bank of India (HO)	63,70,24,885.52 Dr.
Punjab National Bank (HO)	1,98,487.05 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	4,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.
Syndicate Bank (Sadni)	5,000.00 Dr.

Bank Statement have not been made available:

Name of Bank	Balance as on 31.03.2015
Bank of India (Tax Account)	18,363.00 Dr.
B.S.Co-Operative Bank	1,059.45 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	4,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.
Syndicate Bank (Sadni)	5,000.00 Dr.

Balance Confirmation Certificate have not been made available:

Name of Bank	Balance as on 31.03.2015
Bank of India (Tax Account)	18,363.00 Dr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	1,98,487.05 Dr.
State Bank of India (HO)	22,29,304.72 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
Bank of India (Sakchi)	34,71,032.96 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Dehri)	4,82,167.06 Dr.
S.B.I (Koshi)	22,760.50 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.

SBI-Madhepura	8,91,873.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	4,112.00 Dr.
SBI Triveni Link	1,95,760.00 Dr.
SBI (Valmikinagar)	18,07,372.05 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.
Syndicate Bank (Sadni)	5,000.00 Dr.

- (c) In Case of Operating Bank Accounts, in some cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit, TDS deducted by Bank, fund received from Sundry Debtor (South Bihar Power Distribution Company Limited), (Bihar State Power holding Corporation) were not recorded and are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.
- (d) Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us. Also in Bank Reconciliation Statement a large number of high value transactions of transfer from Current Account to / from Auto Sweep Account from / to current account were noticed as un-responded by the Company. It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.
- (e) Stamp in hand amounting to ₹ 12,686/- same balance carried since previous year. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. Copy of physical verification as on 31.03.2015 could not made available to us for our verification.

In absence of relevant documents/proper details, we could not verify it and unable to comment on the correctness of the above figures.

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.



- (f) Calculation sheet of interest provision was not available.
- (g) Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.
- (h) Cash-in hand balance includes negative balance of ₹5,629/- at chandil Unit. It clearly indicates that accounting entries were passed without considering the physical verification of assets as Cash in Hand cannot be negative. This has also resulted into understatement Cash and Bank Balance and overstatement of current liabilities.
- (i) No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income / interest accrued as well as balances in short term deposit.

1.12 Short-term Loans & Advances: ₹ 56,54,16,167.65

- (a) Advance Recoverable in cash includes ₹48.66 crore advances to suppliers/contractors and ₹0.17 crore other recoverable from contractors/ employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance / advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc., which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.
- (b) Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹72,206.00, Advance for Advertisement ₹3,15,555.00, Guest house Rent (Pre-Paid Expenses) ₹10,000.00, L.T.C. Advance ₹46,323.02, T.A. Advance ₹17,03,431.84, Legal Advance ₹14,69,191.00, Transfer Travelling Advance ₹30,358.47,

Consultancy Advance ₹88,250/-, Temporary Advance ₹58,34,007.91, Leave Salary ₹3021.50 etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.

- (c) *Loans and Advances include a sum of ₹95,76,864.81 towards advance to staff comprising ₹1,43,093.77 towards Salary Advance, ₹77,775.90 towards marriage advance, ₹33,867.80 towards House Building Advance, ₹3,51,049.14 towards Medical Advance, Pay Advance ₹4,04,772.00 etc., where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employee were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisability of these staff advances.*
- (d) *Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source, etc being ₹1,95,17,220.96 considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non-refund could not be explained.*
- (e) *During the year a sum of ₹26,67,885.00 has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹2,44,66,094.00. it seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹36,780/- received in preceding Financial Year not linked with proper account. In absence of FD ledger/FD statements/interest calculation sheet and other related documents we could not verify it and unable to comment on the correctness of the above figures.*
- (f) *Advance for land acquisition amounting to ₹5,00,000/- outstanding since long remains to be adjusted/recovered.*
- (g) *Loans and advances includes a sum of ₹43.17 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the department, we are unable*

to offer our comments on realisibility of this amount and resulting loss.

- (h) Balances of Ranchi Project Office and Inter Unit current account to ₹3,98,884.87 outstanding since long remain to be reconciled.

1.13 Current Liabilities:

Trade Payables: ₹1,62,62,262.91 and Other Current Liabilities: ₹20,60,37,761.01

- (a) Sundry Creditors amounting to ₹1,62,62,262.91 consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.
- (b) Nature of ₹1,15,00,000/- shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.
- (c) Liability includes a sum of ₹1,77,421/- (Credit) towards Gratuity liability. No expenses were recognized for ₹1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher than the amount received from L.I.C and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by ₹1,94,224/-.
- (d) Current Liabilities include a sum of ₹4,90,432/- being amount of Audit Fee Payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Year and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non-compliance of Schedule-III to the Companies Act.,

2013. Also the differential amount of Audit Fee for the Year has resulted into understatement/overstatement of loss as well as liability which in absence of proper information cannot be quantified.

1.14 Profit & Loss Account: ₹(-) 30,08,00,420.78

- (a) (i) The Expenditure under Employee Benefit Expenses (Note-15) ₹ 2303654.00, Other Expenses (Note-16) ₹28141737.56, Interest & Finance Charges (Note-17) ₹322818661.40, Depreciation (Note-18) ₹362603.85 has been transferred to CAPITAL WORK IN PROGRESS (Note-7). The basis of allocation/calculation sheet of expenses transfer to CAPITAL WORK IN PROGRESS could not made available to us for our verification.
- (ii) A sum of ₹ 2,81,41,737.56 transferred to CAPITAL WORK IN PROGRESS (Note-7) from Other Expenses (Note-16). Transfer amount is higher than total expenditure under this head of ₹ 2,27,61,514.41. Therefore negative balance shown of ₹ 53,80,223.15 in Profit & Loss Account under Other Expenses (Note-16). In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above figures.
- (iii) In the head of Employee Benefit Expenses (Note-15) and Other Expenses (Note-16) Transfer to Capital Work in Progress showing Schedule 9 instead of Note-7.
- (iv) The top sheet of Profit & Loss Account is Showing Schedule instead of Note; although its Schedule part mentioned as Note No.
- (b) In absence of details of Bank Reconciliation Statements for many Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.
- (c) Agreement with South Bihar Power Distribution Company Limited was not available to verify the rate at which sale of energy is made to them.
- (d) The Corporation was contributing to Life insurance policy for Gratuity liability of it's Employees. During the current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it.

(e) A sum of ₹45,31,253.00 being the Income related to Prior Period were directly adjusted with Accumulated Loss without routing through Statement of Profit & Loss. This has resulted into overstatement of Loss for the year.

(f) Mercantile system of accounting was not strictly followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.

(g) Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Schedule III of the Companies Act, 2013.

1.15 Deviation from Schedule-III to the Companies Act., 2013: The Financial Statement prepared by the company has not followed Schedule-III to the Companies Act, 2013 properly. Security Deposit Paid and Advances given to contractors for capital works were not treated as capital advance, under Long Term Loans & Advances. Similarly Liabilities were not properly disclosed under current and Non Current Liabilities and even EMD, Securities Deposit received were treated as Current Liabilities.

1.16 Disclosures:

(a) The Company has not separately disclosed additional information in the Financial Statements as required by Notification No. GST 494(E) dated 30th October, 1973 as well as required under Schedule -III to the Companies Act, 2013 related to Sales, Employee Remuneration, Audit Expenses Prior Period Expenses, Export Turnover and other non monetary disclosure.

(b) The management has not furnished the following information although required to be disclosed by way of a note to the accounts:

Claims against the Company not acknowledged as debts.

Estimated amount of contracts remaining to be executed on capital account and not provided for.

- (c) *Particular of Advance: The Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.*
- 1.17 *As explained Kosi Kayaiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferor related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.*
- 1.18 *Figures mentioned in the Financial Statements did not used any Symbol. Further, figures as appearing in Financial Statements have not been Rounded off as required in Schedule III of the Companies Act'2013.*
- 1.19 *Observations / qualifications made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.*

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants
FRN: 000681C

Pradeep Kumar
(Pradeep Kumar)

Partner

M.No. 453020



Hay
Chief Engineer (Elect.)
1/10/11 State Hydroelectric
Power Co. Ltd.
Bihar
Bihar

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

ANNEXURE-B TO THE AUDITORS' REPORT ON THE ACCOUNTS
FOR THE YEAR ENDED 31ST MARCH, 2015 (Referred to in paragraph '1'
of our report of even date)

1. In respect of its fixed assets:
 - a. *The Company has not maintained proper records showing full particulars including quantitative details and situation of fixed assets.*
 - b. *As explained the fixed assets have not been physically verified by the management during the year.*
2. In respect of its inventories
 - a. *The inventories have not been physically verified during the year by the management. Clause (b) of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.*
 - b. *This Clause of the order is not applicable as physical verification of stocks has not been conducted during the year under reference.*
 - c. *The company has not maintained proper record of its inventory.*
3. *The Company has not granted nay loans, secured or unsecured to companies, firms or other parties. Accordingly, paragraph 3(iii)(a) & (b) of the Order is not applicable.*
4. *In our opinion, there are reasonable internal control system commensurate with the size of the unit and nature of its business relating to purchase of inventory and fixed assets and for sale of energy and other services, however it needs to be strengthened in the area such as Project Cost incurred vis-à-vis value of Project as per DPR and it's approval from the Government, linking of credit and debit balances appearing in Bank Reconciliation, linking of advances to Contractors / supplier with liabilities, proper reconciliation and adjustment of advances, awarding of Contract of Projects, distribution of Mobile phones to employees and it's control, etc. As per our test checks, there is no serious continuing failure to correct major weakness in internal control system.*

5. According to the information and explanations given to us, no deposits within the meaning of Sections 73 and 76 or any other relevant provision of the Companies Act, 2013 and rules framed there under has been accepted by the company
6. As explained to us, matter related to maintenance of cost records is not applicable to this company in view of the nature of its business.
7.
 - a. In absence of relevant returns and records it is not possible to comment upon regular deposit of undisputed statutory dues including Provident Fund, Employees' State Insurance, Income Tax, Sales Tax, Wealth Tax, Service Tax and any other statutory dues with the appropriate authorities and it is also not possible to ascertain the amount of statutory dues outstanding as on 31st March, 2015 for a period of more than six months from the date they became payable. As explained to us, company has no liability on account of investor education and protection fund, custom duty, excise duty and cess in view of its nature of business.
 - b. For the reason stated in sub-para 7(a) above, it is also not possible to mention the statutory dues of Sales Tax/Income Tax/Custom Duty/Wealth Tax/ Service Tax/ Excise Duty/ Cess which have not been deposited on account of any dispute with the forum where the dispute is pending.
 - c. In absence of relevant documents we could not comment upon amount is required to be transferred to investor education and protection fund or not in accordance with the relevant provision of the Companies Act., 1956 and rules made there under.
8. The Accumulated loss of the Company ₹ 1,03,91,46,730.67 as on 31st March, 2015. The company has incurred cash losses during the current financial year covered by our audit and also in the immediately preceding financial year.



May
Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhagalpur

9. Based on our audit procedures and according to the information and explanations given to us, we are of the opinion that the Company has not defaulted in repayment of dues to Banks, financial institutions, or debenture holders, however the company is defaulter in payment of Loan to Govt. of Bihar / NABARD.
10. In our opinion and according to the information and explanations given to us, no loans and advances have been granted by the Company on the basis of security by way of pledge of shares, debentures and other securities
11. The Company has not raised any money during the year by public issue.
12. According to the information and explanations given to us, no fraud on or by the company has been noticed or reported during the course of our audit.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants
FRN: 000681C
Pradeep Kumar
(Pradeep Kumar)
Partner
M.No. 453020



May
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bane Bhawan, Patna-1

ANNEXURE- C

Referred to in Paragraph 2 of "Other Legal and Regulatory Requirements" of our Audit Report on the Statement of Directions & Additional directions under section 143(5) of the Companies Act, 2013 issued by Comptroller and Auditor General of India for the year 2014-15.

1. DISINVESTMENT

If the company has been selected for disinvestment, a complete status report in terms of valuation of Assets (including intangible assets and land) and liabilities (including Committed & General Reserves) may be examined including the mode and present stage of disinvestment process.

Not Applicable

2. WAIVER/ WRITE OFF OF DEBTS/LOANS/INTEREST ETC.

Whether there are any cases of waiver/write off of debts/loans/interest etc. if yes, the reasons there for and the amount involved.

No such cases found during the course of our Audit.

3. PROPER INVENTORIES RECORDS

Whether proper records are maintained for inventories lying with third parties and assets received as gift from Government or other authorities.

Referred Para No. 1.09 of our Audit Report.

4. PENDING CASES

A report on age-wise of pending legal/arbitration cases including the reasons of pendency and existence/ effectiveness of a monitoring mechanism for expenditure on all legal cases (foreign and local) may be given.

Referred Para No. 1.01(i) of our Audit Report.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants

PRN: 000681C

Pradeep Kumar
(Pradeep Kumar)

Partner

M.No. 453020



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Annexure-"D" to the Independent Auditor's Report

(Referred to in paragraph 3 under 'Report on Other Legal and Regulatory Requirements' of our report of even date)

Report on the Internal Financial Controls over Financial Reporting under Clause (i) of Subsection 3 of section 143 of the Companies Act, 2013 ("The Act")

We have audited the internal financial controls over financial reporting of **BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED** ("the Company") as of March 31, 2015 in conjunction with our audit of the standalone financial statements of the Company for the year ended on that date.


Management's Responsibility for Internal Financial Controls

The Company's management is responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company considering the essential components of internal Financial Controls Over Financial Reporting (the "Guidance Note") issued by the Institute of Chartered Accountants of India. These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to Company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records and the timely preparation of reliable financial information, as required under the Companies Act, 2013.

Auditors' Responsibility

Our responsibility is to express an opinion on the Company's internal financial controls over financial reporting based on our audit. We conducted our audit in accordance with the Guidance Note and the Standards on Auditing prescribed under Section 143(10) of the Companies Act, 2013 to the extent applicable to an audit of internal financial controls. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate Internal financial control over financial reporting was established and maintained and if such controls operated effectively in all material respects.

Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system over financial reporting and their operating effectiveness. Our audit of internal financial controls over financial reporting included obtaining an understanding of internal financial controls over financial reporting assessing the risk that a material weakness exists, and testing and evaluating the design and operation effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.


Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the Company's internal financial controls system over financial reporting.

Meaning of Internal Financial Controls over Financial Reporting

A Company's internal financial control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A Company's internal financial control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that the receipts and payments of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls over Financial Reporting

Because of the inherent Limitations of internal financial controls over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls over financial reporting to future periods are subject to the risk that the internal financial control over financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, to the best of our information and according to the explanations given to us, the Company has, in all material respects, an adequate internal financial controls system over financial reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2015, based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note.

Place: Patna
Date: 05.12.2022

For Anand Rungta & Co.
Chartered Accountants
FRN: 000681C
Pradeep Kumar
(Pradeep Kumar)
Partner
M.No. 453020



My
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bihar State Hydroelectric
Power Corporation Ltd.

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD
Cash Flow Statement for the year ended 31st March, 2015

Particulars	For the year ended 31st March, 2015	For the year ended 31st March, 2014
A. CASH FLOW FROM OPERATING ACTIVITIES :		
Profit Before Tax as per P&L Statement	(300800421)	(282803420)
Adjustment For :		
Prior period adjustment	4531253	(5462759)
Depreciation	75959340	96058152
Interest Expenses	0	220539180
Operating Profit Before Working Capital Changes :	(220309828)	28331153
Working Capital Changes :		
Decrease/(Increase) in Trade Receivables, Loans and Advances	(35224885)	(68606855)
Change in inventories	2717	
Increase/(Decrease) in Trade Payables, Liabilities & Provisions	576936393	591840364
Cash Generated from Operations :	321404398	551564663
Net Cash Flows from/(used in) Operating Activities	321404398	551564663
B. CASH FLOW FROM INVESTING ACTIVITIES:		
(Purchase)/ Sale of fixed assets and changes in capital work in prog	(376722314)	(650526403)
Net Cash Flows from/(used in) Investing Activities	(376722314)	(650526403)
C. CASH FLOW FROM FINANCING ACTIVITIES:		
Loan from Bihar Govt. and NABARD	606207000	502207000
Capital subsidy		67350000
Interest Expenses	0	(220539180)
Net Cash Flows from/(used in) Financing Activities	606207000	349017820
D. NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS (A+B+C)	550889084	250056079
Cash and Cash Equivalents:		
Opening Balance	535816611	285760532
Closing Balance	1086705695	535816611

Note : The above cash Flow Statement has been prepared under the indirect method as set out in Accounting Standard (AS-3) on Cash Flow Statement.

(The accompanying notes are integral part of the financial statements)

Khushboo
(Khushboo)
Company Secretary

[Signature]
Director

D.I.N.-09462844

[Signature]
(Mahendra Kumar)
Managing Director

D.I.N.-09570771

In terms of Our Report of Even Date.

For ANAND RUNGTA & CO.

Chartered Accountants

ERN 000681C

[Signature]
Pradeep Kumar

(Partner)

M No. 453020



Place: PATNA

Date: 05.12.2022

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Sone Bhawan, Birchand Patel Marg, Patna

BALANCE SHEET AS AT 31ST MARCH, 2015

PARTICULARS	Note	As at 31.03.2015	As at 31.03.2014
<u>EQUITY AND LIABILITIES</u>			
<u>Shareholders' Funds</u>			
Share Capital	1	990,400,000.00	990,400,000.00
Reserves and Surplus	2	(2,029,546,730.67)	(1,733,277,562.82)
<u>NON- CURRENT LIABILITIES</u>			
Long-term borrowings	3	9,516,382,098.30	8,336,539,298.21
<u>CURRENT- LIABILITIES</u>			
Trade payables	4	16,262,262.91	15,859,301.91
(Dues of Micro Enterprises & Small Enterprises - Nil)			
Other current liabilities	5	206,037,761.01	203,140,128.94
		<u>8,699,535,391.55</u>	<u>7,812,661,166.24</u>
<u>ASSETS</u>			
<u>Non-current assets</u>			
<u>Fixed Assets</u>			
Gross Block	6	2,697,834,993.28	2,697,031,441.28
Less : Depreciation		<u>1,077,167,640.38</u>	<u>1,000,845,696.22</u>
Net Block		1,620,667,352.90	1,696,185,745.06
Capital work-in-progress	7	5,159,920,896.97	4,783,639,531.16
<u>Current assets</u>			
Inventories	8	12,536,522.99	12,539,239.99
Trade Receivables	9	254,288,756.00	234,635,260.00
Cash & Bank Balances	10	1,086,705,695.04	535,816,611.30
Short-term loans & advances	11	565,416,167.65	549,844,778.73
		<u>8,699,535,391.55</u>	<u>7,812,661,166.24</u>

Significant Accounting Policies and Notes on Accounts:-

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(The accompanying notes are integral part of the financial statements)

Khushboo
(Khushboo)
Company Secretary

Jan
Director

Mahendra Kumar
(Mahendra Kumar)
Managing Director

D.I.N.-09462844

In terms of Our Report of Even Date.
For ANAND RUNGTA & CO.
Chartered Accountants
FRN 000681C

D.I.N.-09570771

Place: PATNA
Date: 05.12.2022

Pradeep Kumar
Pradeep Kumar
(Partner)
M No. 453020



Chief Engineer (Elect.)
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Sone Bhawan, Birchand Patel Marg, Patna

STATEMENT OF PROFIT & LOSS FOR THE YEAR ENDED 31ST MARCH, 2015

PARTICULARS	Schedule	Current Year	Previous Year
INCOME			
Revenue from operations	12	81,656,229.00	135,366,248.00
Other Income	13	25,479,857.00	22,672,535.00
Total Revenue		107,136,086.00	158,038,783.00
EXPENDITURE			
Cost of material consumed	14	26,444,274.00	39,572,248.00
Employee benefit expenses	15	60,095,977.00	72,575,623.00
Other Expenses	16	(5,380,223.15)	12,096,999.63
Total Expenses		81,160,027.85	124,244,870.63
Earning before interest and tax		25,976,058.15	33,793,912.37
Financial costs	17	250,817,138.69	220,539,180.49
Depreciation & Amortisation Exp.	18	75,959,340.24	96,058,152.00
Profit/(Loss) before tax		(300,800,420.78)	(282,803,420.12)
Tax expense:			
Current tax			
Deferred tax			
Total tax expenses			
Profit/(Loss) after tax		(300,800,420.78)	(282,803,420.12)
Earning per equity share		(303.72)	(285.54)
Basic & Diluted (Nominal value per share of ' 1000/-)			
Weighted Average Number of Equity Shares (Basic & Diluted)		990,400.00	990,400.00

Significant Accounting Policies and Notes on Accounts :

19

Khushboo
 (Khushboo)
 Company Secretary

[Signature]
 Director

[Signature]
 (Mahendra Kumar)
 Managing Director

D.I.N. 09462844

D.I.N. -09570771

In terms of Our Report of Even Date.
 For ANAND RUNGTA & CO.
 Chartered Accountants
 FRN 000681C

Place: PATNA
 Date: 05.12.2022

Pradeep Kumar
 Pradeep Kumar
 (Partner)
 M No. 453020



[Signature]
 Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 Sone Bhawan, Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
NOTES FORMING PART OF BALANCE SHEET
for the year ended 31st March, 2015.

Note: 1 SHARE CAPITAL

Particulars	As at 31st March, 2015		As at 31st March, 2014	
	Number of share	Amount Rs.	Number of share	Amount Rs.
Authorised				
Equity shares of Rs.1000/- each	1000000	1000000000	1000000	1000000000
Issued, Subscribed and fully paid up				
Equity shares of Rs.1000/- each	990400	99040000	990400	99040000
	990400	99040000	990400	99040000

(ii) Share Capital Reconciliation

Particulars	As at 31st March, 2015		As at 31st March, 2014	
	Number of Shares	Amount	Number of Shares	Amount
Opening Balance	990400	990400000	990400	990400000
Add:- Fresh Issue				
Closing Balance at the year end	990400	990400000	990400	990400000

(iii) Details of shares held by shareholders holding more than 5% of the aggregate shares in the company.

Name of Shareholders	As at 31st March, 2015		As at 31st March, 2014	
	Number of Shares	% of Holding	Number of Shares	% of Holding
Governor of Bihar	683371	69.00%	683371	69.00%
Governor of Jharkhand	307023	31.00%	307023	31.00%



Khushkhin
Company Secretary
 Bihar State Hydro Electric
 Power Corp. Ltd.
 PATNA

[Signature]
Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

[Signature]
Managing Director
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

D.I.N.-09462844

D.I.N.-0957077

[Signature]
Chief Engineer (Elect.)
 Bihar State Hydroelectric
 Power Corporation Ltd.
 PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED
Notes annexed to and forming parts of account
for the year ended 31st March, 2015

Particulars	As at 31.03.2015	As at 31.03.2014
Note: 2		
RESERVE & SURPLUS		
Surplus / (Deficit)		
Capital Subsidy		
As per last account	293,008,000.00	225,658,000.00
Addition during the year		67,350,000.00
(A)	293,008,000.00	293,008,000.00
Profit in Statement of Profit and Loss		
Opening balance	(2,026,285,562.89)	(1,738,019,383.36)
Prior Period Adjustment	4,531,253.00	(5,462,759.34)
Add: Profit / (Loss) for the year	(300,800,420.78)	(282,803,420.12)
Closing balance	(B) (2,322,554,730.67)	(2,026,285,562.82)
Total(A+B)	(2,029,546,730.67)	(1,733,277,562.82)

Note: 3

Long term borrowings
From Government of Bihar

Principal	2,230,899,000.00		2,130,899,000.00
Interest accrued	2,746,848,649.69		3,504,152,713.22
Penal Interest	1,078,376,285.54	6,056,123,935.23	5,635,051,713.22

From Government of Jharkhand

	50,000,000.00	50,000,000.00
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From Government of Bihar under RIDF
(NABARD) Scheme

Principal	2,433,383,000.00		1,927,176,000.00
Interest accrued	846,356,016.62		724,311,584.99
Penal Interest	130,519,146.45	3,410,258,163.07	2,651,487,584.99

	9,516,382,098.30	8,336,539,298.21
--	------------------	------------------

Notes :

- During the year 2008-09 loan of Rs. 1,50,72,000.00 received from Government of Bihar for 4 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2008-09 loan of Rs. 7,84,00,000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 4 new projects is repayable in 7 years including grace period of 2 years. Interest @ 6.5% per annum is payable on this loan to NABARD.
- During the year 2009-10 loan of Rs. 17,87,68,000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2009-10 loan of Rs. 16,64,66,000.00 received from Government of Bihar under RIDF (NABARD) Scheme is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the Financial Year 2010-11 Loan of Rs. 240938000.00 received from Government of Bihar under RIDF (NABARD) Scheme for 07 Projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- During the year 2010-11 loan of Rs. 43898000.00 received from Government of Bihar for 2 new projects is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.



Khushbh...
Company Secretary
Bihar State Hydro Electric
Power Corp Ltd
PATNA

[Signature]
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09462844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

- 7 During the Year 2011-12 Loan of Rs. 336342000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 10 new projects and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 8 During the year 2011-12 loan of Rs. 19607000 received from Government of Bihar for 2 new projects namely Sipha and Dehra and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 9 During the Year 2012-13 Loan of Rs. 109924000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 04 new projects namely Bathnaha, Nirmali, Sipha and Dehri Escape Channel and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 10 During the Year 2012-13 Loan of Rs. 139799000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 02 new projects namely Arrarghat and Dehri Escape Channel and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 11 During the year 2012-13 loan of Rs. 33670000.00 received from Government of Bihar for Arrarghat Project and is repayable in 10 annual equal instalments commencing after one year from the date of disbursement. Interest @ 13% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 12 During the year 2012-13 loan of Rs. 11000000.00 received from Government of Bihar for Dagmara Project and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 13 During the Year 2013-14 Loan of Rs. 167883000.00 received from Govt. of Bihar under RIDF (NABARD) Scheme for 03 new projects namely Nirmali, Bathnaha phase-I and Dehra is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.
- 14 During the year 2013-14 loan of Rs. 150000000.00 received from Government of Bihar for V. Nagar Escape and for system improvement and is repayable in 20 annual equal instalments commencing after one year from the date of disbursement. Interest @ 10.50% per annum is payable on this loan. Penal interest @ 2.5% per annum is payable in case of default.

Note: 4

TRADE PAYABLES

Acceptances and small enterprises

Other than acceptances

Sundry Creditors

	16,262,262.91	15,859,301.91
Total	16,262,262.91	15,859,301.91



Krushna
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

San
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09462844

San
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09570771

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 5

OTHER CURRENT LIABILITIES

Liabilities for expenses		
Other Liabilities	31,908,530.41	27,253,027.41
Income Tax deducted at source	3,117,097.35	2,945,855.28
Security Deposits	(182,881.41)	(125,731.41)
Deductions from Contractors	54,032,213.79	53,520,586.99
Royalty	28,894,998.97	26,296,949.77
Sales Tax	6,895,550.75	6,435,550.75
VAT	(40,723,135.45)	(40,217,432.45)
Service Tax	(500.00)	5,000.00
Grant in Aid	(239,135.00)	408,120.00
Irrigation Department		
Interest accrued - PFC Loan	11,500,000.00	11,500,000.00
Group Gratuity Payable		4,531,253.00
Group Gratuity Scheme	177,421.00	177,421.00
AID for RGGVY (DDG)	1,212,625.00	964,553.00
Suspense	109,492,500.00	109,492,500.00
	(47,524.40)	(47,524.40)
	206,037,761.01	203,140,128.94

Note: 8

INVENTORIES

Capital Stores		
Materials issued to contractors	6,778,250.80	6,778,250.80
Stationery Items	5,341,680.56	5,344,397.56
Exide Battery	324,908.84	324,908.84
Stock Suspense	23,895.68	23,895.68
	67,787.11	67,787.11
	12,536,522.99	12,539,239.99

Note: 9

TRADE RECEIVABLES

(Unsecured, considered good)

Debts outstanding for a period

exceeding six months

Other debts

23,969,371.00	42,961,998.00
230,319,385.00	191,673,262.00
254,288,756.00	234,635,260.00

Note: 10

CASH AND CASH EQUIVALENTS

Balance with Scheduled Banks in Current Account

Short Term deposits with bank

PL Account with SBI Secretariat Branch

Cash on hand

Cheques in hand

Stamps in hand

754,770,561.40	203,907,900.06
13,931,739.87	13,931,739.87
317,897,620.00	317,897,620.00
93,087.77	66,665.37
12,686.00	12,686.00
1,086,705,695.04	535,816,611.30

Note: 11

SHORT TERM LOAN AND ADVANCES

(Unsecured, considered good)

Advances receivable in cash or in kind

Advance - Tax Deposit

Recoverables

Prepaid Expenses - Insurance

Receivables- Energy Dept. Govt of Bihar

Interest Accrued on Fixed Deposits

Security Deposit - BSEB (TB)

Security Deposit - (Telephone)

Advance for land aquisition

Ranchi Project Office

Inter Unit Current Account

496,184,015.55	505,078,960.63
22,185,105.96	19,517,220.96
1,765,929.17	1,765,689.17
10,000.00	10,000.00
4,317,462.10	4,317,462.10
40,042,770.00	18,244,561.00
12,000.00	12,000.00
500,000.00	500,000.00
238,066.00	238,066.00
160,818.87	160,818.87
565,416,167.65	549,844,778.73

Company Secretary

Bihar State Hydro Electric

Power Corp Ltd

PATNA

Director

Bihar State Hydroelectric
Power Corporation Ltd.

PATNA

D.I.N.-09462844

Managing Director

Bihar State Hydroelectric
Power Corporation Ltd

PATNA

D.I.N.-00570774

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 12

REVENUE FROM OPERATIONS

Sale of Electricity

81,656,229.00	135,366,248.00
81,656,229.00	135,366,248.00

Note: 13

Other Income

Interest - Fixed Deposits	24,466,094.00	20,581,963.00
Interest - Other		
Interest - House Building Advance	406,430.00	450,756.00
Interest - Marriage Advance	6,800.00	11,426.00
Interest - Motor Cycle Advance	28,695.00	35,646.00
Recovery of Electricity	49,321.00	973,907.00
House Rent	140,472.00	132,809.00
Insurance Claim	0.00	0.00
Recovery of Materials	0.00	0.00
Sale of Tender Paper	325,600.00	271,750.00
Miscellaneous Income	56,445.00	214,278.00
	25,479,857.00	22,672,535.00

Note: 14

Cost of material consumed

Operation and Maintenance of Power House

Operation and Maintenance

26,444,274.00	39,572,248.00
26,444,274.00	39,572,248.00

Note: 15

Employee Benefit Expenses

Managing Director's Remuneration

Salary & Allowance

Group Gratuity Scheme Exp

	812,254.00
62,399,631.00	72,958,670.00
	1,341,873.00
62,399,631.00	75,112,797.00
2,303,654.00	2,537,174.00
60,095,977.00	72,575,623.00

Transfer to Capital Work in Progress (Schedule 9)

Total



Krushna
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd
PATNA

Jan
Director

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

MD

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09570771

Key

Chandrasekhar
Bihar State Hydro Electric
Power Corporation Ltd.
Bhawan, Patna

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Note: 16

Other Expenses

Administrative and Management Expenses

DLI and P.F. Administrative charges	413,072.00	438,707.00
Uniform and Liveries	101,484.55	115,533.68
Reimbursement of Medical & Educational Expenses	566,454.00	882,952.00
Auxiliary Consumption	3,198,292.00	-
Rent	3,842,732.00	3,707,614.00
Electricity	1,195,568.00	1,265,372.00
Travelling & Conveyance	1,182,258.00	2,404,644.00
Petrol, Oil & Lubricants	1,317,754.00	3,831,866.00
Insurance	55,914.00	1,989,873.00
Advertisement	1,239,339.00	1,132,534.00
Telephone & Telex Charges	538,157.56	680,494.63
Internet Expenses	-	-
Printing & Stationary	276,704.00	418,378.00
Postage	24,092.00	7,436.00
Conference and Seminar	-	26,500.00
Bank Charges	1,887.70	882.00
Repairs - Vehicles	203,136.00	195,574.00
Repairs - Building	351,412.00	235,286.00
Repairs - Plant	2,095,711.00	8,266,141.00
Repairs - Other	2,582,603.00	10,098,210.32
Hire & Rental Charges	912,767.00	1,864,404.00
Licence & Registration Fee	95,981.00	62,800.00
Consultancy/Legal & Professional fees	633,124.00	2,852,910.00
D.P.R Expenses	-	17,819.00
Statutory Auditors Fee	-	112,360.00
Internal Auditors Fee	36,944.00	36,944.00
Tax Audit Fees	20,319.00	17,600.00
Entertainment	151,471.00	437,168.00
Survey & Investigation	0.00	0.00
News Paper	14,648.00	18,348.00
Transportation Charges	5,555.00	7,350.00
Grant for Purchase of Computer	0.00	0.00
Donation & Subscription	-	38,753.00
Plantation	0.00	0.00
wages to security	0.00	0.00
Trans. & Transfer Loss	382,595.00	0.00
Miscellaneous Expenses	1,321,539.60	7,534,067.00
	22,761,514.41	48,698,520.63
	28,141,737.56	36,601,521.00
Total	(5,380,223.15)	12,096,999.63

Transfer to Capital Work in Progress (Schedule 9)

Note: 17

Interest & Finance Charges

Interest on Term Loans

Government of Bihar	267,799,747.00	269,088,994.00
Penal Interest on Govt Loan	53,272,475.04	-
Government of Bihar -RIDF (NABARD)	204,384,178.03	224,043,876.99
Penal Interest on NABARD Loan	48,179,400.02	-
	573,635,800.09	493,132,870.99
	(322,818,661.40)	(272,593,690.50)
	250,817,138.69	220,539,180.49

Transfer to Capital Work in Progress

Note: 18

Depreciation

As per Schedule 4	76,321,944.09	97,991,657.34
Transferred as a prior period adjustment	-	(362,313.34)
Transfer to Capital Work in Progress	(362,603.85)	(1,571,192.00)
	75,959,340.24	96,058,152.00

K. K. Choudhary
Company Secretary

Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09462844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-09570771



Notes: 5
FIXED ASSETS

Sl. NO.	PARTICULARS	GROSS BLOCK		DEPRECIATION		NET BLOCK	
		As at 01.04.2014	Addition during the year	Deduction during the year	As at 31.03.2015	As at 31.03.2015	As at 31.03.2014
1	Land - Freehold	20,411,326.53	-	0.00	0.00	20,411,326.53	20,411,326.53
2	Land - Leasehold	185,800.00	-	0.00	0.00	185,800.00	185,800.00
3	Buildings - Residential	18,303,457.67	0.00	0.00	2,89,194.63	15,412,263.04	12,560,848.22
4	Buildings - Non Residential	15,497,300.09	0.00	0.00	4,91,264.41	10,586,035.68	7,840,399.96
5	Buildings - Sheds	729,825.55	0.00	0.00	0.00	729,825.55	0.00
6	Roads & Bridges	43,671,017.07	0.00	0.00	1,38,30,611.11	42,28,405.96	19,325,746.34
7	Water Supply Installation	190,280.36	0.00	0.00	6,03,189	59,885.03	65,916.92
8	Electric Installation	280,191,753.90	7,31,696.00	0.00	36,17,675.92	2,43,66,501.99	638,317,367.03
9	Plant & Machinery	1,028,400,563.03	0.00	0.00	2,43,66,501.99	804,734,061.04	662,683,869.02
10	Power House	1,267,408,521.96	0.00	0.00	3,01,64,322.82	965,764,199.14	890,261,066.36
11	Furniture & Fixtures	4,032,360.11	56,040.00	0.00	4,52,894.80	3,635,505.31	1,336,381.80
12	Office Equipments	7,717,090.59	20,000.00	4,184.00	9,518,580.50	3,234,510.31	4,137,274.81
13	Other Equipments	23,118,390.94	0.00	0.00	15,60,437.57	7,513,953.37	3,560,414.70
14	EPBX Machine	540,350.00	0.00	0.00	51,333.25	211,016.75	271,733.35
15	Books	440,148.46	0.00	0.00	1,37,427.09	302,721.37	244,876.07
16	Vehicles	3,945,504.46	0.00	0.00	4,24,720.64	3,520,783.82	827,378.86
17	Bicycles	11,223.14	0.00	0.00	0.00	11,223.14	4.94
18	Computers	2,095,941.52	0.00	0.00	0.00	2,095,941.52	1.12
19	Other Assets	120,585.90	0.00	0.00	10,947.47	1,09,638.43	66,517.01
	Total :-	2,697,031,441.28	807,736.00	4,184.00	76,321,944.89	1,920,667,252.90	1,696,185,744.99
	Previous Year :-	2,669,140,924.08	27,892,112.20	1,595.00	97,991,657.34	1,696,185,745.06	1,766,286,885.20

(Company Secretary)
Bihar State Hydro Electric
Power Corp. Ltd
PATNA



(Chief Engineer (Elect.))
Bihar State Hydroelectric
Power Corporation Ltd.
Bane Bhawan, Patna-1

(Director)

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Managing Director,
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

D.I.N.-09570771

A. Assets under construction/installation

Sl. NO	PARTICULARS	As at 01.04.2014	Addition during the year	Deduction during the year	As at 31.03.2015
1	Building				
2	Generating Equipments	7,651,514.24	-	-	7,651,514.24
3	Power House	123,966,561.89	-	-	123,966,561.89
4	Transformer (Sub-Station Equipments)	139,315,147.11	-	-	139,315,147.11
5	Auxiliary & Ancillary Equipments	5,236,595.73	-	-	5,236,595.73
6	Road & Bridges	409,542.00	-	-	409,542.00
7	Water Supply Installation	9,067,794.41	-	-	9,067,794.41
8	Intake Gates	1,164,233.42	-	-	1,164,233.42
9	Generating Set	5,812,325.74	-	-	5,812,325.74
10	Expenses on Investigation	114,594.24	-	-	114,594.24
11	Power/Esc. Channel	552,005.05	-	-	552,005.05
12	Excavation Work-in-Progress	37,524,050.13	-	-	37,524,050.13
13	Transmission System	243,680.00	-	-	243,680.00
14	Fencing Wall	10,016,050.09	-	-	10,016,050.09
15	Rock Excavation Allow Pen Stock	22,724.00	-	-	22,724.00
16	Tail & Tunnel	5,889,944.20	-	-	5,889,944.20
17	Micro Hydle Set	17,293,114.70	-	-	17,293,114.70
18	Dewatering of Pit	814,029.00	-	-	814,029.00
19	Construction of Store & Godown	9,717,966.00	-	-	9,717,966.00
20	Designing & Drawing	730,116.00	-	-	730,116.00
21	Land Acquisition	465,500.00	-	-	465,500.00
		4,378,205.00	-	-	4,378,205.00
22	AMETHI				
	Power House (Amethi)				
	Construction of E/M Amethi	28,792,028.45	-	-	28,792,028.45
	Construction of Switchyard (Amethi)	28,284,869.28	-	-	28,284,869.28
	Const. of Non Residential Building (Amethi)	779,190.00	-	-	779,190.00
	E/M Equipment (Amethi)	1,285,605.00	-	-	1,285,605.00
		1,315,318.00	-	-	1,315,318.00
23	ARRARIHAT				
	Land- Arrarhat	553,490.00	-	-	553,490.00
24	ARWAL				
	Construction of E/M Arwal				
	Power House (Arwal)	59,670.00	-	-	59,670.00
	Electric Equipment (Arwal)	222,073.00	-	-	222,073.00
	Febrication (Arwal)	(4,330,311.00)	-	-	(4,330,311.00)
	switchyard (Arwal)	(871,981.00)	-	-	(871,981.00)
25	BELSAR	0.00			
	Power House (Belsar)				
	Construction of E/M Belsar				
	Electric Equipment (Belsar)	(9,976,904.00)	-	-	(9,976,904.00)
26	JALIM GHAGH				
	Power House (Jalim)	19,306,480.00	-	-	19,306,480.00
27	RAJAPUR				
	Plant & Machinery (Rajapur)	3,014,184.00	-	-	3,014,184.00
	Power House (Rajapur)	42,614,229.00	-	-	42,614,229.00
	Construction of E/M Paharma	43,299,618.60	-	-	43,299,618.60
	Const. of P.H (Pharma)	3,055.00	-	-	3,055.00
28	LGP				
	Power House (LGP)	14,240,389.43	-	-	14,240,389.43
29	RAMPUR				
	Power House (Rampur)	14,162,608.73	-	-	14,162,608.73
	Construction of E/M Rampur	11,290,201.00	-	-	11,290,201.00
30	NATWAR				
	Power house (Natwar)	14,421,149.00	-	-	14,421,149.00
	Eor. Crane (Natwar)	1,426,000.00	-	-	1,426,000.00
	Electric Equipment (Natwar)	4,964.00	-	-	4,964.00
	Const. of P.H (Natwar)	3,424,884.00	-	-	3,424,884.00
	Construction of E/M Natwar	2,970,194.92	-	-	2,970,194.92
31	NINDI				
	Power House (Nindi)	852,489.00	-	-	852,489.00
32	PIHARMA				
	Power House (Paharma)	27,075,398.00	-	-	27,075,398.00
33	SDP				
	Power House (SDP)	23,260,103.66	-	-	23,260,103.66

May
Bihar State Hydroelectric Power Corporation Ltd.
Patna



Company Secretary
Bihar State Hydro Electric
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Director
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Managing Director
Bihar State Hydroelectric
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34	DEHRA				
	Const. of EM - Dehra	37,694,808.00	-	-	37,694,808.00
	Power House (Dehra)	46,942,961.00	-	-	46,942,961.00
35	TB				
	Electric Installation (TB)	1,623,795.00	-	-	1,623,795.00
	Power House (TB)	1,086,354.00	-	-	1,086,354.00
36	TEJPURA				
	Power House (Tejpura)	58,689,808.00	-	-	58,689,808.00
	Transmission Line-Tejpura	188,000.00	-	-	188,000.00
	switchyard (Tejpura)	2,213,314.00	-	-	2,213,314.00
	Construction of EM (Tejpura)	24,278,768.84	-	-	24,278,768.84
	Const. of PH (Tejpura)	6,454,838.00	-	-	6,454,838.00
	Const. of SLR Bridge	1,634,213.00	-	-	1,634,213.00
	Const. of DLR Bridge	798,289.00	-	-	798,289.00
37	WALIDAD				
	Power House (Walidad)	25,914,612.00	23,090.00	-	25,937,702.00
	Transmission Line (Walidad)	1,424,322.00	-	-	1,424,322.00
	Construction of Electric Equipment (Walidad)	14,815,567.72	-	-	14,815,567.72
38	BARBAL				
	Power House (Barbal)	21,151,377.00	-	-	21,151,377.00
	Land-Barbal	3,647,400.00	-	-	3,647,400.00
39	BATHNAHA				
	Power House (Bathnaha)	77,016,129.00	-	-	77,016,129.00
	Land-Bathnaha	12,993,444.00	330,642.00	-	13,324,086.00
	Construction of EM (Bathnaha)	21,905,606.00	-	-	21,905,606.00
	Tools & Plant-Bathnaha	50,903.00	-	-	50,903.00
40	DAGMARA				
	Const. of P.H - Dagmara	11,726,820.00	-	-	11,726,820.00
	Preparation Of physical Model	10,769,196.00	-	-	10,769,196.00
41	MATHAULI				
	Power House (Mathauli)	33,880,337.00	-	-	33,880,337.00
	Const. of E/M Equipment (Mathauli)	18,497,047.00	-	-	18,497,047.00
	Land-Mathauli	1,643,750.00	-	-	1,643,750.00
	Construction of Power Chancel (Mathauli)	6,289,083.00	-	-	6,289,083.00
42	NIRMALI				
	Power House (Nirmali)	166,659,208.00	9,157,821.00	-	175,817,029.00
	Const. of E/M of Equipment- Nirmali	10,824,000.00	-	-	10,824,000.00
	Land-Nirmali	6,588,145.00	1,487,640.00	-	8,075,785.00
43	SONE WESTERN				
	Const. of power house (SW)	1,376,041.00	-	-	1,376,041.00
	SIPHA				
	Const. of E/M (Shipha)	34,842,499.00	-	-	34,842,499.00
	Power House (Shipha)	37,811,711.00	-	-	37,811,711.00
	Const. of Bridge (Shipha)	1,258,003.00	-	-	1,258,003.00
44	KATANIA				
	Power House (Katania)	29,112,564.00	-	-	29,112,564.00
	Land-Katania	1,694,473.00	-	-	1,694,473.00
45	TRIVENI				
	Land - Triveni	(1,019,922.00)	-	-	(1,019,922.00)
46	SADANI				
	Land - Sadani	1,270,800.00	-	-	1,270,800.00
47	JAINAGRA				
	Construction of E/M Jainagra	(10,373,276.00)	-	-	(10,373,276.00)
48	PHARMA				
	Construction of E/M Paharma	43,160,939.00	-	-	43,160,939.00
	Const. of P.H (Pharma)	4,288,718.00	-	-	4,288,718.00
	switchyard (phahrma)	256,500.00	-	-	256,500.00
49	CHANDIL				
	Construction of E/M (Chandil)	99,926,658.58	-	-	99,926,658.58
50	NORTH KOEL				
	Fabrication Erection	25,647,213.00	-	-	25,647,213.00
	Construction of Pen Stock	587,542.00	-	-	587,542.00
	Plantation	54,978.00	-	-	54,978.00
	Construction of E/M (North Koel)	83,412,950.45	-	-	83,412,950.45
	Total A	1,628,575,176.61	10,999,193.00	-	1,639,574,369.61
	Previous Year	1,366,974,070.61	274,980,837.00	13,379,731.00	1,628,575,176.61



Khushim
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Bihar State Hydroelectric
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D.I.N.-09462844

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- 4 -

B. Development Expenditure				
Sl. NO	PARTICULARS	As at 01.04.2014	Addition during the year	Deduction during the year
				As at 31.03.2015
1	Project Report Survey & Consultancy Charges	25,390,799.46		
2	Preliminary Expenses - Projects		9,32,744.00	0.00
3	New Project Expenses	92,777,511.82	0.00	0.00
4	Development Expenditure as per last account	503,546.00	0.00	0.00
5	Development Expenditure (Detail of addition given below)	632,703,539.38	0.00	0.00
	Amethi			
	Arwal	30,511,846.70	4,258,830.85	0.00
	Arrahat		0.00	0.00
	Barbal	25,710,944.00	21,387,898.00	0.00
	Bathnaha	26,098,472.00	7,689,388.00	0.00
	Belsar	208,464,440.00	81,980,830.59	0.00
	Bagha	0.00	0.00	0.00
	Bettiah	191,357.00	0.00	0.00
	Chandil	63,566.00	60,576.00	0.00
	Dagmara	530,150,996.80	34,150,464.26	0.00
	Dhoba	169,001,492.89	31,774,238.56	0.00
	Sipha	27,175,927.00	7,685,238.00	0.00
	Indrapuri	28,631,653.00	18,759,203.71	0.00
	Jalimgagh	289,142.00	0.00	0.00
	Katnai	20,057,653.89	1,550,000.00	0.00
	Lower Ghgari	30,699,435.00	8,543,948.00	0.00
	Mathoali	12,243,863.47	789,807.75	0.00
	Mandal (North koel)	20,622,382.00	7,292,606.00	0.00
	Madhepura	724,067,961.85	16,848,654.33	0.00
	Naiwar	1,576,990.00	694,136.00	0.00
	Netarhat	17,767,809.00	2,626,586.34	0.00
	Nindigagh	1,531,988.68	92,124.25	0.00
	Nirmali	20,059,227.47	1,550,000.00	0.00
	Nokha	103,883,619.50	61,860,449.97	0.00
	Pharma	183,709.00	13,027.00	0.00
	Rajapur	49,988,042.53	7,167,778.63	0.00
	Rampur	33,169,345.73	4,350,690.90	0.00
	Sadani	17,801,230.43	2,710,432.31	0.00
	Dehra	28,628,414.00	1,974,552.50	0.00
	Sone Eastern	32,644,010.00	20,198,379.69	0.00
	Tejpora	2,423,286.91	0.00	0.00
	Tenu	72,096,563.65	9,602,342.35	0.00
	Walidid	83,210,735.00	3,945,043.26	0.00
	Total of 5	33,927,284.73	4,792,201.56	0.00
		2,352,873,390.23	364,349,428.81	0.00
6	Interest on Loan - Bihar Government	18,363,881.13	0.00	0.00
7	Interest on Loan - Bihar Government (New Projects)	37,577.00	0.00	0.00
8	Interest on Loan - NABARD	26,894,138.00	0.00	0.00
9	Transfer from Head Office	2,797,453.53	0.00	0.00
10	Capital Maintenance of PH (SW)	2,722,518.00	0.00	0.00
	Total B	3,155,064,354.55	365,282,172.81	0.00
	Previous Year	4,159,070,140.08	637,949,122.08	13,379,731.00
	Total A+B	4,783,639,531.16	376,281,365.81	5,159,920,896.97



Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N - 09462844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N - 09570771

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Patna-1

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Detail of Development Expenditure (Net)

	2014-15	2013-14
1 INCOME		
Interest on FD		
Sale of Tender Paper/BOQ		1,222,646.92
Interest on Motorcycle Adv	0.00	0.00
Interest on HBA	2,150.00	5,160.00
Recovery of Electricity	12,000.00	26,875.00
Recovery of House Rent		(7,487.00)
Init. On Marriage advance	0.00	0.00
Recovery of Penalty	0.00	1,656.00
Misc Income	0.00	0.00
Total 1	15,477.00	(89,431.00)
	29,627.00	11,59,419.92
2 EXPENDITURE		
Salary & Allowance		
Wages Contingent Staff	5,485,403.00	5,321,250.00
Uniform & Liveries	3,197,409.00	5,383,659.00
Medical Expense	1,640.00	5,922.50
Survey & Investigation	1,59,487.00	1,02,468.00
Rent	9,60,678.00	67,93,493.00
Travelling & Conveyance	1,03,000.00	1,73,740.00
Telephone & Telex Charges	46,988.00	3,19,017.00
Printing & Stationary	12,210.00	25,764.00
Postage	4,105.00	88,807.00
Petrol, Oil & Lubricants	1,412.00	368.00
Electricity Charges	2,13,946.00	6,81,655.00
Bank Commission	8,873.00	4,120.00
Repairs & Maintenance	0.00	300.00
Transportation/Freight & Carriage Charges	68,122.00	50,69,101.00
Insurance	13,820.00	31,471.00
Hire Charges of Vehicle	0.00	10,651.00
Preparation of DPR	2,30,667.00	7,39,126.00
Preparation of E-TDS	0.00	53,550.00
Consultancy/Legal Expenses	4,075.00	4,136.00
Entertainment	1,58,428.00	23,85,329.00
Interest on Government of Bihar Loan	4,400.00	1,72,507.00
Interest on Government of Bihar Loan -RIDF (NABARD)	9,58,65,498.36	9,97,99,637.00
Testing	17,07,95,489.62	17,27,94,053.50
Newspaper	0.00	1,35,01,788.00
Penal Interest on Govt loan	898.00	2,606.00
Penal Interest on NABARD loan	1,87,24,134.33	0.00
Miscellaneous Expenses	3,74,33,539.09	0.00
Administrative & Management Expenses (HO) - Allocated	76,838.00	10,39,553.00
Salary Allocated - Other Projects	2,81,41,737.56	3,66,01,521.00
Depreciation	23,03,654.00	25,37,174.00
	3,62,603.85	15,71,192.00
Total 2	364,379,055.81	355,213,959.00
NET (2-1)	364,349,428.81	354,054,539.08



K. K. Shrivastava
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

[Signature]
Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09462844

[Signature]
Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

D.I.N.-09570771

[Signature]
Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-I

<u>Advances receivable in cash or in kind</u>		<u>31.03.2015</u>	<u>31.03.2014</u>
Advance to staff/officers		9,598,864.81	13,415,972.74
Advance to suppliers		387,039,723.90	388,037,919.90
Advance to contractors		99,545,426.84	103,625,067.99
Net Debit		496,184,015.55	505,078,960.63
<u>Recoverables</u>			
Electricity recoverable from contractors		1,746,807.57	1,746,807.57
Electricity recoverable from employee		19,121.60	18,881.60
		1,765,929.17	1,765,689.17
<u>Sundry Creditors</u>			
Sundry Creditors		665,459.73	665,459.73
Unpaid Contractor		13,137,909.00	12,734,948.00
Creditor for capital store		2,458,894.18	2,458,894.18
		16,262,262.91	15,859,301.91
<u>Liabilities for expenses</u>			
Outstanding salary		8,875,417.35	7,898,013.35
Unpaid salary		377,164.50	507,840.50
Unpaid Honorarium		515.00	515.00
Outstanding rent		742,667.00	577,378.00
Outstanding other expenses		16,277,797.00	12,630,711.00
Outstanding audit fee		490,432.00	490,432.00
Outstanding electricity charges		96,256.00	99,856.00
Outstanding computerisation account		835,488.00	835,488.00
Provision For Exp		4,059,248.00	4,059,248.00
Unpaid SE		19,071.00	19,071.00
Unpaid SW		7,988.00	7,988.00
Consultancy Charges payable		15,000.00	15,000.00
Liability for store CH		111,486.56	111,486.56
		31,908,530.41	27,253,027.41
<u>Other Liabilities</u>			
Salary deduction		(807,917.98)	(979,160.05)
Recovery effected but not remitted		381,458.40	381,458.40
AO SRP Ranchi		15,930.81	15,930.81
Earth quake relief fund		5,552.00	5,552.00
EE Mech Div IRRIG Dept		124,307.49	124,307.49
National Defence Fund		5,044.96	5,044.96
CPF/PPF/GI		107,102.77	107,102.77
Recovery of bank guarantee		350,579.90	350,579.90
Guarantee Fee		622,500.00	622,500.00
Recovery From Energy Deptt		(18,500.00)	(18,500.00)
Testing & Commissioning		2,331,039.00	2,331,039.00
		3,117,097.35	2,945,855.28
<u>Security Deposits</u>			
Contractors		50,022,952.09	47,651,768.29
EM - Contractors		4,009,261.70	5,868,818.70
		54,032,213.79	53,520,586.99
<u>Deductions from contractors</u>			
Performance Guarantee		(2,668,122.00)	(2,668,122.00)
Keep Back		4,115,358.71	3,893,197.51
Time Extention		23,506,352.09	21,896,573.09
Other recovery from Contractors		311,877.00	311,877.00
EPF Contractor - With held			54,999.00
With held		2,424,793.00	1,603,685.00
Misc Deposit - Contractors		1,204,740.17	1,204,740.17
		28,894,998.97	26,296,949.77
<u>TDS</u>			
Contractors		317,189.59	481,240.59
Salary		(500,071.00)	(606,972.00)
		(182,881.41)	(125,731.41)

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
D.I.N. - PATNA

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd
PATNA

D.I.N.-09570771



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

NOTE: 19

Significant Accounting Policies and Notes on Accounts

1. Corporate Information

The financial statements comprise financial statements of Bihar State Hydroelectric Power Corporation Limited (the "Company, BSHPCL") for the year ended March 31, 2015. The Company is a private company domiciled in India and incorporated under the provisions of the Companies Act, 2013 applicable in India.

The Company has multiple power projects located at various locations. The Company sells power generated from these projects.

2. Significant Accounting Policies:

Basis of accounting

The Financial Statements are prepared under historical cost convention, on accrual basis unless otherwise mentioned, in accordance with the generally accepted accounting principles in India (India GAAP) and to the Accounting Standards referred to in sub-section (3C) of section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent applicable, except as elsewhere.

Leave salary and pension contribution payable to employees on deputation, bonus to employees, leave encashment, liability on account of arrear salary on revision of pay/dearness allowance, liability on account of revision of audit fees and other expenses quantum of which are not ascertainable at the time of finalization of account are accounted on cash basis.

Use of Estimates

The preparation of the Company's financial statements in conformity of the Indian GAAP requires the management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. The management believes that the Estimates used in preparation of the financial statements are prudent and reasonable. The estimates and underlying assumptions are reviewed on an ongoing basis and any revisions thereto are recognized in the period in which they are revised or in the period of revision and future periods if the revision affects both the current and future periods. Uncertainties about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Inventories

Inventories comprising of stores and spares, as existing at the year end, are valued at cost.

Company Secretary
Bihar State Hydroelectric
Power Corp. Ltd.
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA

Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-0057077

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Tangible Fixed Assets, Depreciation and Amortization:

Tangible Fixed assets are stated at cost of acquisition/construction less disposal/ depreciation. Subsequent expenditures relating to an item of fixed assets is added to its book value only if they increase the future benefits from the existing asset beyond its previously assessed standard of performance.

The company has not revalued any of its assets as on the date of the financial statement.

Depreciation and Amortization

- up to financial year 1999-2000 depreciation was provided on written down value method on all fixed assets at the rates prescribed in Income Tax Rules.
- from financial year 2000-01 depreciation is provided on straight line/written down value method
- at rates prescribed in Schedule XIV of the Companies Act, 1956 on the fixed assets not related to power generating units.
- at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

Capital Work in Progress

a. Capital work in progress includes:

- i. expenditure incurred on acquisition/construction of fixed assets during the construction stage of the project which are yet to put on use pending commencement of the commercial production.
- ii. administration and other overheads specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition,
- iii. expenditure incurred on start-up and commissioning of the project, including expenditure incurred on test run, and
- iv. borrowing cost.

- b. The advances given to the Contractors for "Turnkey Basis Projects" are progressively capitalised on the basis of the running bills submitted by the Contractors.

Revenue Recognition

Revenue from Power Supply is recognized on the basis of sales to Bihar State Electricity Board in terms of the agreements. Such Revenue is measured at the value of the consideration received or receivable, net of trade / cash discounts if any.

Revenue from other income comprising of sale of tender paper, interest, recoveries and other miscellaneous receipts are recognized on actual collection or when no significant uncertainty as to collectability exists.

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1



Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Government Grants

The company recognises government grants only when there is reasonable assurance that the conditions attached to them will be complied with, and the grants will be received. Grants received by the company related to specific projects are shown separately until it is adjusted by reducing the cost of related project on its commissioning. The grant is thus recognised in the profit and loss statement over the useful life of a depreciable asset by way of a reduced depreciation charge.

Pending adjustment with the cost of related projects this has been shown separately between Reserve & Surplus and Unsecured Loans based on the recommendation of the Accounting Standard 12 issued under The Companies Accounting Standards Rules, 2006.

Borrowing Cost

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

Employees Benefits:

- i. For the obligation towards gratuity company has taken plan covering eligible employees through Group Gratuity Scheme of Life Insurance Corporation of India.
- ii. Retirement Benefits in the form of Provident Fund and Family Pension Fund are charged to the profit and loss for the period in which the contributions to the respective funds accrue as per relevant statutes.
- iii. The company is yet to make provision for other benefits as per the provision contained in Accounting Standard 15 issued under The Companies Accounting Standards Rules, 2006.

Apportionment of Loan and Borrowing Cost

- i. The corporation as per policy in the earlier financial year have reapportioned the loan received as common loan for the projects undertaken by the corporation. The reapportionment was done on the basis of fund utilized by the Corporation for the period from 1983-1984 to 1995-1996. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan.



Munir Singh
Director
Bihar State Hydroelectric
Power Corporation Ltd
PATNA
0057077

K. K. Shrivastava
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

- ii. The common loan received for the project namely Agnoor, Sadani, Ghagri, Netharhat, Nindighagh and Jalimghagh has been reapportioned with effect from the earlier financial year on the basis of generation capacity of the respective Projects. Interest on loan has been accordingly booked in the financial statement based on change in the allocation of loan under respective Projects.
- iii. The loan received against share of Government of Bihar for NABARD sponsored project has been reapportioned with effect from the earlier financial year on the basis of sanctioned loan amount for the respective Projects. Interest on loan from the current financial year has been accounted for as per rates chargeable by the State Government.

Apportionment of Head Office Expenses

- i. The Head Office expenses have been allocated in the ratio of installed capacity of the respective projects of the Corporation except for inactive Projects.
- ii. In respect of projects where major projects development operations have commenced in the earlier financial year, head office expenses have been apportioned to the extent of the installed capacity of the respective Projects.
- iii. Interest on Short Term Deposits at Head Office has not been considered for apportionment and allocation on the projects.

Impairment of Assets

An asset is treated as impaired when the carrying cost of asset exceeds its recoverable value. An impairment loss is charged for when an asset is identified as impaired.

Taxes on Income

- i. Provision for current tax on the taxable income for the year as determined in accordance with the provision of the Income Tax Act, 1961 is made.
- ii. In view of uncertainty of future taxable income no deferred tax resulting from 'timing difference' between taxable and accounting loss requiring any provision on account of deferred tax as required under Accounting Standard 22 issued under The Companies Accounting Standards Rules, 2006.

Earnings Per Share

Basic earnings per share is computed by dividing the profit/ (loss) after tax by the weighted average of equity shares outstanding during the year.

Bihar State Hydroelectric
Power Corporation Ltd.

PATNA

D.I.N.-09462844

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.

PATNA

D.I.N.-09570771



Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd.
PATNA

BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

Provisions, Contingent Liabilities and Contingent Assets

Provision is recognized when the company has a present obligation as a result of past events and it is probable that an outflow of resource will be required to settle the obligation in respect of which a reliable estimate can be made. Provision are not discounted to their present value and are determined based on the best estimate required to settle the obligation at the balance sheet date. these are reviewed at each Balance Sheet date and adjusted to reflect the current best estimates. No contingent liabilities have been foreseen by the management as on the date of the financial statement.

- 3 Fixed Assets Register is yet to be maintained with required information. Step has been made to maintain the Fixed Asset Register and conduct physical verification of fixed assets.
- 4 The Assets and Liabilities, if any, after takeover of management of Koshi Kataiya Unit is yet to be accounted for, i.e. the assets and Liabilities are yet to be handed over to the Corporation. However, major renovation expenses have been done by the Corporation during the year and Capitalised during the year.
- 5 Balance confirmation of loans including interest thereon, debtors, creditors, deposits and advances are awaited.

6 Bank Accounts

Accounts have been reconciled (except in some cases) which includes old outstanding items and stale cheques. Efforts are on to liquidate such old outstanding items and adjustment of stale cheques.

Bank balances as mentioned in Bank Reconciliation Statements are taken from the bank statements. Balance confirmations from banks remain to be obtained.

It includes balances of inoperative accounts remain to be confirmed

- 7 No Capital Grant received during the Financial Year.
- 8 There was no employee in the Corporation during the year getting remuneration exceeding Rs. 60,00,000/- p.a. or Rs. 5,00,000/- monthly (P.Y. Rs. 60,00,000/- per year or Rs. 5,00,000/- monthly) for a part of the year.

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd

Director
Bihar State Hydroelectric
Power Corporation Ltd.
Patna

911N-09462844

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA



BIHAR STATE HYDROELECTRIC POWER CORPORATION LIMITED

9. Since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.
10. Final Settlement with Power Finance Corporation amounting to 1362.00 Lakhs has been treated as Interest as interest for Financial Year 2011-12.
11. Interest on Short Term Deposits at Head Office has not been considered for Apportionment and allocation on the Projects.
12. In terms of Ministry of Corporate Affairs Notification No GSR 463(E) dated 05.06.2015, Government Companies are exempted from applicability of provision of section 164(2) of the Companies Act, 2013.
13. In view of Company's Shares not listed and as turnover of the Company for the accounting period ended on 31 St March, 2015 did not exceed Rs. 50 Crores, Accounting Standard 03, 17 and 18 issued by The Institute of Chartered Accountants of India are not applicable.
14. Amount of Contingent Liabilities not quantifiable on account of
 - tax demands including interest and penalties
 - penalties for delay in filing of Returns/Forms with the Registrar of Companies and other authorities
15. The material issued to contractors, claim recoverable, earnest money deposit, royalty, keep back and security deposits are subject to reconciliation/ confirmation and necessary adjustments will be done after final reconciliation/confirmation.
16. The Company has not received any memorandum (as required to be filed by the suppliers with the notified authority under the Micro, Small and Medium Enterprises Development Act, 2006) claiming the status as Micro, Small or Medium Enterprises. Hence, the amount paid/payable as well as interest paid/ payable to these parties during the year is considered as nil. Also, the company has no outstanding to any suppliers beyond the agreed period between the suppliers and the company in writing
17. Income / Expenditure in Foreign Currency: Rs. NIL (P.Y. Rs. Nil).

Khushboo
Company Secretary
Bihar State Hydro Electric
Power Corp. Ltd
PATNA

Director
Bihar State Hydroelectric
Power Corporation Ltd.
PATNA
D.I.N.-0946284

Managing Director
Bihar State Hydroelectric
Power Corporation Ltd
PATNA



D.I.N. 00570771

MAHENDRA HYDROELECTRIC POWER CORPORATION LIMITED

The Company is engaged in Generation of Hydro Electricity and it's area of Operation was undivided Bihar. Pursuant to Bihar Re-organisation Act 2000, the company's Assets/ Projects falling in the State of Jharkhand were required to be apportioned to the State of Jharkhand. As per Geographical distribution, 08 Projects of the Company are situated in the State of Jharkhand. In absence of final allocation of Assets and Liabilities, assets and Liabilities yet to be apportioned to the Jharkhand State has not been reflected separately.

In the opinion of the Board and to the best of their knowledge belief, the value of realisation of current and other assets in the ordinary course of business will not be less than the amount at which they are shown in the Balance Sheet.

Provision for Service Tax is as per opinion obtained by the Management from it's Service Tax Consultant.

Previous Years Figures for Financial Year 2013-14 have been re-arranged / re-stated and regrouped to make them comparable with figures for current year being Financial Year 2014-15.


Director


(Mahendra Kumar)
Managing Director

D.I.N.-09462844

D.I.N.-09570771





Annexure F – Grant Details

ANNEXURE – F

Grant Details

Chief Engineer (Elect.)
Bihar State Hydroelectric
Power Corporation Ltd.
Bhawan, Patna-1

Details of Project Wise Subsidy received from MNRE

Sl.no.	Name of Projects	opening Balance	Receipt of Fund From MNRE							Amount Utilised	Balance	utilisation Certificate Submitted for the amount
			YEAR									
			2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014			
1	Dhelaibagh SHP	121.875								121.875	NIL	Submitted
2	Nasriganj SHP	112.5								112.5	NIL	Submitted
3	Treyani SHP	150								150	NIL	Submitted
4	Jainagara SHP	67.5		45						112.5	NIL	Submitted
5	Arwal SHP		71.93							71.93	NIL	Submitted
6	Walidac SHP			59.565						89.565	NIL	Submitted
7	Rajapur SHP		30	59.565						89.565	NIL	Submitted
8	Shurkhinda SHP			89.565						89.565	NIL	Submitted
9	Belsar SHP		112.5							112.5	NIL	Submitted
10	Tejpur SHP		146.25							146.25	NIL	Submitted
11	Sebari SHP		112.5							112.5	NIL	Submitted
12	Rampur SHP				34.375	21.875				56.25	NIL	Submitted
13	Paharna SHP				137.5	87.5				225	NIL	Submitted
14	Ametni SHP				68.75	43.75				112.5	NIL	Submitted
15	Netwar SHP					56.25				56.25	NIL	Submitted
16	Dehra SHP					62.5				162.5	NIL	Submitted
17	Sidha SHP					62.5				137.5	NIL	Submitted
18	Barbal SHP					34.6				34.6	NIL	Submitted
19	Mathauli SHP							50		130	NIL	Submitted
20	Batnaha SHP					132.5				159	NIL	Submitted
21	Nirmal SHP						122.5			147	NIL	Submitted
22	Arranghat SHP					1.6				1.6	NIL	Submitted
	TOTAL	451.875	592.745	164.13	240.625	503.075	122.5	50	673.5	2798.45		

Chief Engineer (Electrical)
Bihar State Hydroelectric
Power Corporation Ltd.
Sone Bhawan, Patna-1

Manager (A/C)
Bihar State Hydroelectric

Annexure G – Generation Data for FY 2010-11 to FY 2015-16

Plant/Year wise detail of Saleable Energy							
(Values in Mus)							
S.NO.	Name of Project	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
1	Dehri (4X1.65 MW)	10.16	13.61	13.92	7.92	8.81	11.33
2	Barun (2X1.65 MW)	4.58	6.94	9.98	4.09	1.30	0.06
3	Valmikinagar (3X5 MW)	7.68	11.23	14.15	22.76	11.81	13.13
4	Kosi Kataiya (4X4.8 MW)	0.84	-	3.35	10.12	7.01	3.52
5	Agnoor (2X0.5 MW)	0.32	1.04	0.99	0.68	0.19	-
6	Nasriganj (2X0.5 MW)	1.12	2.39	2.02	1.70	1.11	0.66
7	Dhelabagh (2X0.5 MW)	0.88	1.91	1.67	1.57	-	1.38
8	Triveni (2X1.5MW)	1.22	0.90	2.27	2.71	1.70	2.59
9	Jainagra (2X0.35 MW)	0.38	0.35	0.90	0.21	-	-
10	Shrikhinda (2X0.5 MW)	0.27	0.33	0.51	0.22	0.21	0.18
11	Arwal (1X0.5 MW)	-	0.01	0.21	0.46	-	-
12	Sebari (2X0.5 MW)	0.17	1.93	1.82	1.22	0.67	0.31
13	Belsar (2X0.5 MW)	-	-	0.37	0.70	-	-
Total Generation		27.61	40.65	52.17	54.37	32.79	33.16
Actual Auxiliary Cosumption		0.97	1.44	1.46	1.69	1.28	1.25
Auxiliary Consumption as per Regulations		0.14	0.20	0.26	0.27	0.16	0.17
Net Generation (Tranmission loss at 0.5%)		27.34	40.24	51.65	53.83	32.47	32.83

Annexure H – GFA, Equity, and Loan addition for the period of FY 2016-17 to FY 2020-21.

Sr. No.	Plant Name	Net GFA Addition					(Amount in Cr.)
		FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	
1	Agnoor	0.00000	-	0.00001	0.0001	0.0002	
2	Dhelabagh	0.00000	-	0.00001	0.0001	0.8968	
3	Jainagara	0.00000	-	0.00001	0.0001	0.0002	
4	Nasriganj	0.00000	-	0.00001	0.0032	0.0002	
5	Triveni	0.00001	-	0.00003	1.4040	0.0006	
6	Valmikinagar	0.00006	-	0.03185	0.0019	0.0034	
7	Dehri-on-sona	0.25055	0.0018	0.00006	2.5617	0.0014	
8	Barun	0.00001	0.0012	0.00003	0.0004	0.0007	
9	Koshikataiya	0.00008	-	0.00016	0.0024	0.0040	
10	Shirkhinda	0.00000	-	0.00001	0.9226	0.0001	
11	Sebari	0.00000	-	0.00001	0.0033	0.0002	
12	Arwal	0.00000	-	0.00000	0.0590	0.0001	
13	Belsar	0.00000	-	0.00001	0.0001	0.0002	
Total		0.25074	0.0030	0.03218	4.9589	0.9081	

Sr. No.	Plant Name	Equity Addition During the Year					(Amount in Cr.)
		FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	
1.00	Agnoor	-	-	-	-	-	
2.00	Dhelabagh	-	-	-	-	-	
3.00	Jainagara	-	-	-	-	-	
4.00	Nasriganj	-	-	-	-	-	
5.00	Triveni	-	-	-	-	-	
6.00	Valmikinagar	-	-	-	-	-	
7.00	Dehri-on-sona	-	-	-	-	-	
8.00	Barun	-	-	-	-	-	
9.00	Koshikataiya	-	-	-	-	-	
10.00	Shirkhinda	-	-	-	-	-	
11.00	Sebari	-	-	-	-	-	
12.00	Arwal	-	-	-	-	-	
13.00	Belsar	-	-	-	-	-	
Total		-	-	-	-	-	

Sr. No.	Plant Name	Debt Addition During the Year					(Amount in Cr.)
		FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	
1.00	Agnoor	0.000004	-	0.000008	0.000124	0.000208	
2.00	Dhelabagh	0.000004	-	0.000008	0.000124	0.896784	
3.00	Jainagara	0.000004	-	0.000008	0.000124	0.000208	
4.00	Nasriganj	0.000004	-	0.000008	0.003194	0.000208	
5.00	Triveni	0.000012	-	0.000025	1.404001	0.000624	
6.00	Valmikinagar	0.000062	-	0.031852	0.001866	0.003389	
7.00	Dehri-on-sona	0.250546	0.001809	0.000055	2.561724	0.001372	
8.00	Barun	0.000014	0.001240	0.000028	0.000411	0.000686	
9.00	Koshikataiya	0.000079	-	0.000160	0.002364	0.003951	
10.00	Shirkhinda	0.000003	-	0.000006	0.922569	0.000146	
11.00	Sebari	0.000004	-	0.000008	0.003268	0.000208	
12.00	Arwal	0.000002	-	0.000004	0.059036	0.000104	
13.00	Belsar	0.000004	-	0.000008	0.000124	0.000208	
Total		0.250743	0.003049	0.032180	4.958931	0.908096	

Annexure I – Capital Cost Break-up for 4 Plants (Arwal, Sebari, Shirkhinda, and Belsar)

(Amt in Cr.)

Cost Break-up of Plants as per Audited Accounts					
Sr.N.	Particulars	Sebari	Shrikhinda	Arwal	Belsar
1	E/M	2.71	1.26	0.83	3.00
2	Power House	3.91	4.91	4.76	4.56
3	Electrical Equipment	-	-	0.55	1.00
4	Febrication	-	-	0.09	-
5	Switch Yard	-	-	0.02	0.00
6	Development Expenditure	1.79	1.49	1.84	3.24
7	Total	8.41	7.66	8.09	11.80

Note 1 - The cost break-up for Sebari and Shrikhinda has been taken from audited accounts of FY 2009-10

Note 2 - The cost break-up for Arwal has been taken from audited accounts of FY 2011-12

Note 3 - The cost break-up for Belsae has been taken from audited accounts of FY 2012-13

Annexure J – Government of Bihar Loan Details

ANNEXURE - J

Bihar State Hydroelectric Power Corporation Ltd.,

Details of State Government Loan

(Rs. In lacs)

Sl. No	Name of Project's/	F.Y.	Sanctioned Lt.No. & Date	Amount Received	Date of Drawal	Rate of Intt. @	Panel Intt. @
1	Cons. Of Power house	1983-84	1179 / 15.03.1984	200.00	24.03.1984	7%	2.50%
2	Cons. Of Power house	1984-85	1079 / 12.03.1985	250.00	29.03.1985	7%	2.50%
3	Cons. Of Power house	1985-86	6256 / 16.10.1985	500.00	26.10.1985	13%	2.50%
4	Cons. Of Power house	1986-87	3976 / 26.08.1986	1,200.00	30.08.1986	13%	2.50%
5	Cons. Of Power house	1987-88	1665 / 25.05.1987	795.00	01.06.1987	13%	2.50%
6	Cons. Of Power house	1989-90	2823 / 22.08.1989	1,050.00	30.08.1989	13%	2.50%
7	Cons. Of Power house	1990-91	2623 / 17.07.1990	500.00	22.07.1990	13%	2.50%
8	Cons. Of Power house		0372 / 02.02.1991	300.00	08.02.1991	13%	2.50%
9	Cons. Of Power house North Koyal & chandil		0331 / 30.03.1991	1,090.00	31.03.1991	13%	2.50%
10	Runing Project System Improv.	1992-93	0162 / 13.02.1992	500.00	18.02.1992	13%	2.50%
11	Cons. Of Power house With Chandil		0574 / 26.03.1992	314.00	31.03.1992	13%	2.50%
12	V.Nagar	1992-93	2328 / 31.03.1993	60.00	31.03.1993	13%	2.50%
13	For O.E.C.F.	1993-94	0585 / 16.03.1994	338.00	25.03.1994	13%	2.50%
14	Cons. Of Power house	1995-96	1121 / 25.03.1996	247.00	31.03.1996	13%	2.50%
15	V.Nagar,North Koyal, chandil & Other	1997-98	0590 / 10.03.1998	450.00	24.03.1998	13%	2.50%
16	Chandil,Lower G.,Dehri, Barun & T.Bokaro	1998-99	0873 / 27.03.1999	1,000.00	30.03.1999	13%	2.50%
17	Agnoor,Ninidi G. & T. Bokaro	1999-2000	4543 / 10.12.1999	500.00	11.02.2000	13%	2.50%
18	Agnoor	2002-03	0261 / 10.02.2003	500.00	27.03.2003	13%	2.50%
19	(17) Project	2005-06	062 / 07.03.2006	345.24	13.03.2006	13%	2.50%
20	(17) Project		063 / 13.03.2006	500.00	30.03.2006	13%	2.50%
21	(17) Project	2006-07	2071 / 03.06.2006	1,775.60	08.08.2006	13%	2.50%
22	Kataiya		0360 / 29.01.2007	3,284.00	16.03.2007	13%	2.50%
23	Doba,Katanya, Mathouli&Barbal	2008-09	0574 / 26.02.2009	150.72	24.03.2009	13%	2.50%
24	Bathnaha	2009-10	1363 / 27.03.2010	1,287.68	08.04.2010	13%	2.50%
25	Dagmara (D.P.R.)		1376 / 30.03.2010	500.00	08.04.2010	13%	2.50%
26	Dehri Escape	2010-11	1415 / 23.03.2011	63.96	30.03.2011	13%	2.50%
27	Nirmali		1416 / 23.03.2011	375.02	30.03.2011	13%	2.50%
28	Sipha	2011-12	1354 / 26.03.2012	94.40	03.04.2012	13%	2.50%
29	Dehra		1355 / 26.03.2012	101.67	03.04.2012	13%	2.50%
30	Ararghat	2012-13	3361 / 03.08.2012	336.70	06.09.2012	13%	2.50%
31	System Improv.		1173 / 28.02.2013	500.00	19.03.2013	10.50%	2.50%
32	Dagmara (D.P.R.)		1174 / 28.02.2013	600.00	19.03.2013	10.50%	2.50%
33	V. Nagar Escape	2013-14	1710 / 22.03.2013	100.00	02.04.2013	10.50%	2.50%
34	System Improv.		1018/12.03.2014	900.00	31.03.2014	10.50%	2.50%
35	V. Nagar Escape	2014-15	996/12.03.2014	600.00	31.03.2014	10.50%	2.50%
36	V. Nagar Escape		4049/19.11.2014	1,000.00	26.12.2014	10.50%	2.50%
37	Payment of Sahabad Engg.	2018-19	685/12.03.2019	271.31	16.03.2019		
38	Rest Cons. Of Power house		704/13.03.2019	1,254.59	16.03.2019		
39	Dagmara (D.P.R.)	2019-20	68/26.06.2019	1,168.37	16.07.2019		
40	Kataiya	2020-21	958/19.03.2021	579.00	19.03.2021		
41	(12) Project Rest Work	2021-22	22/04.01.2022	1,400.00			
42	V. Nagar Quarter & Japnise IB Renovation		777/04.03.2022	12.89			
43	(12) Project Rest Work	2022-23	77/26.09.2022	650.00	30.09.2022		
Total Rs.				27,645.14			

Replies to queries of Hon'ble Bihar Electricity Regulatory Commission

Replies to queries of Hon'ble Bihar Electricity Regulatory Commission

Ref: BERC Letter bearing Letter No.- BERC-Case No-23/2-22 590 dated 14.06.2023

1. **Audit Report:** In Audit Report, it has been observed that there are material qualifications of Statutory Auditors on the Annual Accounts, it is required to be clarified that how truing up will be completed in absence of auditor's verification of financial items which are basis of truing up and tariff determination. Also, furnishing of justification in respect of each qualification/ remarks of Statutory Auditors appearing in the Auditors Report is necessary for this truing up and capital cost determination.

Reply: The Petitioner is submitting comments on qualifications/ remarks on Statutory Auditor appearing in the Auditors Report for FY 2010-11 and FY 2011-12, attached as **Annexure A**. Further, Petitioner humbly submits that preparation of comments on Auditors Report for further years under consideration is underway. The Petitioner intends to promptly submit these comments once the preparation is finalized.

2. **CAG Audit Report:** Whether CAG Audit Report are yet to be completed, required to be clarified with current status.

Reply: The Petitioner submits that the CAG Audit Report for FY 2010-11 to FY 2015-16 has been attached as **Annexure B**.

3. **Reconciliation of Audited Accounts Data and Petition figures:** A reconciliation of all the figures claimed in the petition vs amount appearing in the Audited Account is required to be furnished for each and every deviation in comparison to audited account. Further, scientific basis of apportionment of expenses to different generating project required to be justified in detail along with supporting documents that these apportioned cost are prudent and actual relates to those project.

Reply: The Petitioner submits the reconciliation of addition to Gross Fixed Asset (GFA) for each year attached as **Annexure C**. Further, it is respectfully submitted that Depreciation, Return on Equity, Interest on Loan, and Interest on Working Capital are computed as per the provision contained in the BERC Regulations (Terms and conditions for determination of Tariff), 2007 and methodology adopted by this Hon'ble in the previous Order dated 14.12.2021. Operations and Maintenance are being claimed as per the Audited Accounts and the same has been prorated to the operational plants based on their Installed Capacity.

4. **Rate of Interest on Loan:** Rate of interest on Loan claimed in the petition required to be justified supporting the documents of the relevant period of the claim.

Reply: The Petition has attached documentary support towards the Rate of Interest claimed in the instant Petition as **Annexure D1 and D2**.

5. It is necessary to furnish;

- a. the details of original scheduled date of completion of project and actual date of completion unit wise showing cost attributed to each delaying factor (for the project sr.no. 10 to 13 of table 1 of the petition as these have not been completed and not started commercial operation within the original schedule timeframe). In this regard, Detailed breakup of the amount of cost and time overrun separately under all the four categories of reasons specified under a) to d) of paragraph 1.5 of the tariff petition including the Loss of materials/ equipment due to theft, fire, flood, commotion (public unrest and naxal activities) etc is necessarily required to be furnished.

Reply: The Petitioner hereunder submits plant wise supporting document pertaining to cost and time overrun, such as scope revision approval, time extension letters, addition work letters, etc.; as sought by this Hon'ble Commission under **Annexure E**.

- b. for the project at sr.no.10 to 13 of table 1 of the petition:

Year-wise, project-wise, unit-wise details of each component of CWIP, Capitalization and Source of funding based on audited figures. And Year-wise letter for equity, grant and loan infused in the project.

Detailed project wise, yearly loan wise and transaction wise working of IDC and IEDC.

Break up of Interest on Loan bifurcating into amount charged to the statement of P/L and CWIP.

Reply: Year wise, project wise Component of CWIP and Capitalization is shown in the tables below:

Table 1: Power House

Year	Arwal		Belsar		Shrikhinda		Sebari	
	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization
2005-6	6.09	-	-	-	5.07	-	17.96	-
2006-7	80.35	-	126.95	-	334.20		347.51	-
2007-8	341.45	-	185.97		409.44	-	347.51	-

(Rs. in Lakhs)

Year	Arwal		Belsar		Shrikhinda		Sebari	
	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization
2008-9	405.79	-	283.06	-	490.61	-	391.25	-
2009-10	429.32	-	339.97	-	-	490.61	-	391.25
2010-11	455.60	-	363.48	-	-	490.61	-	391.25
2011-12	-	476.35	455.70	-	-	490.61	-	391.25
2012-13	2.22	476.35	-	455.70	-	490.61	-	391.25

Table 2: Construction on E/M, Switch Yard, Electric Equipment & Fabrication

(Rs. in Lakhs)								
Year	Arwal		Belsar		Shrikhinda		Sebari	
	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization
2005-6	-	-	-	-	-	-	-	-
2006-7	-	-	-	-	-	-	-	-
2007-8	-	-	197.49	-	110.68	-	231.97	-
2008-9	38.94	-	209.64	-	126.29	-	270.55	-
2009-10	38.94	-	209.65	-	-	126.29	-	270.55
2010-11	83.09	-	219.69	-	-	126.29	-	270.55
2011-12	-52.02	148.55	300.48	-	-	126.29	-	270.55
2012-13	-52.02	148.55	-99.77	400.66	-	126.29	-	270.55

Table 3: Development Expenditure

Year	Arwal		Belsar		Shrikhinda		Sebari	
	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization	CWIP Closing Balance	Capitalization
2005-6	12.63	-	-	-	19.54	-	23.64	
2006-7	32.19	-	36.52	-	47.62	-	60.11	
2007-8	58.08	-	80.61	-	83.62	-	107.31	
2008-9	86.53	-	135.52	-	125.05	-	147.81	
2009-10	119.57	-	195.57	-	-	149.34	-	178.73
2010-11	153.64	-	258.08	-	-	149.34	-	178.73
2011-12	-	183.60	323.72		-	149.34	-	178.73
2012-13	-	183.60	-	323.72	-	149.34	-	178.73

Further, it is submitted that there has been no equity infusion in the construction of the above 4 plants. The source of funding of the above 4 stations is through Loans and Grants, as submitted in the instant Petition. Supporting documents in respect to Loans and Grants are attached as **Annexure F1 & F2**.

Further, year wise IDC for the above 4 plants is shown in the table below:

Table 4: Break-up of Interest During Construction (IDC)

Year	Arwal		Belsar		Shrikhinda		Sebari	
	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan
2005-6	0.08	9.98	-	-	0.12	15.54	0.17	17.84
2006-7	8.06	7.24	16.12	13.00	11.28	11.28	16.12	12.95
2007-8	12.83	6.76	25.65	12.13	17.95	10.53	25.65	12.09
2008-9	12.89	9.91	25.77	17.77	18.04	15.43	25.77	17.72

Year	Arwal		Belsar		Shrikhinda		Sebari	
	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan	Interest for Bihar Govt. Loan	Interest for NAWARD Loan
2009-10	13.51	13.88	23.78	25.11	9.40	11.28	8.30	12.97
2010-11	13.51	13.88	23.78	25.11	18.07	22.57	20.68	25.94
2011-12	13.51	13.88	23.78	25.11	18.07	22.57	20.68	25.94

With respect to IEDC, it is submitted that IEDC is a part of Development Expenditure as shown in the table no. 3 above.

Detail of Interest on Loan bifurcating into amount charged to the statement of P/L and CWIP is attached shown below:

Table 5: Interest on Loan bifurcating into amount charged to the statement of P/L and CWIP

(Rs. in Lakhs)						
Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
To CWIP	1,292.89	1,753.78	2,237.18	2,725.94	3,228.19	3,627.16
To P/L	1,662.60	3,114.77	2,102.96	2,205.39	2,508.17	2,610.84

- c. Project wise, plant wise outlay towards capital investment as well as renovation & modernization on the existing projects during the year under consideration along with budgetary support/equity from Government of Bihar and Government of India.

Reply: The petitioner submits that there has been no Renovation & Modernization work performed on the existing projects during the years under consideration.

- d. Based on audited figures, Year-wise, project wise, unit-wise, item wise details of gross fixed assets and actual depreciation worked out in terms of Regulation 55(2) of BERC Regulations 2007 for all project including these 13 projects.

Reply: Regulation 55(2) of BERC Regulations, 2007 is reproduced below:

“55. Computation of annual fixed charges

(2) Depreciation including Advance Against Depreciation

(a) Depreciation

For purpose of tariff, depreciation shall be computed in the following manner:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.

(ii) Depreciation shall be calculated annually, based on the straight-line method over the useful life of the asset and at rates prescribed by the Central Electricity Regulatory Commission

(iii) The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost for purposes of depreciation while computing 90% of the historical cost of the asset. The historical capital cost for purposes of depreciation of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Central Government / Central Electricity Regulatory Commission
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(iv) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(v) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis."

As per the above mentioned regulation, the rate of Depreciation is to considered as prescribed by the Hon'ble CERC. In view of the same, the Petitioner has considered rate of depreciation as prescribed by the Hon'ble CERC vide its Tariff Regulation 2009 and Tariff Regulation 2014 (attached as **Annexure G1 & G2**).

Further, in view of the above, the Petitioner submits the working of Depreciation as per Regulation 55(2), attached as **Annexure H**.

Additional Submission

Additional Submission

Recovery of Revenue Gap approved during Truing up of FY 2009-10:

1. The Petitioner submits that as per Order dated 14.12.2021 of this Hon'ble Commission, the Petitioner was allowed recovery of Rs. 2.44 Crore during the truing up for FY 2009-10. The relevant abstract of the Order is reproduced below:

"The Commission, accordingly, has approved revenue gap of Rs.2.44 crore in truing-up for FY 2009-10 as detailed in the table above.

The trued up revenue gap shall be carried forward in to the ARR of the ensuing year. No carrying cost shall be allowed on the revenue gap as the true-up petition is filed belatedly by the Petitioner."

2. In-view of the above the Petitioner requests the Hon'ble Commission to allow recovery of the aforementioned revenue gap of Rs. 2.44 Crore along with the ARR for FY 2023-24 as submitted in the Petition.

HQ allocation for FY 2011-12:

The Petitioner respectfully brings to the attention of the Hon'ble Commission an inadvertent omission regarding a claim in GFA for FY 2011-12 towards HQ allocation, totaling Rs. 14,22,881/- . In light of this oversight, the Petitioner humbly requests the Hon'ble Commission's consideration to kindly permit the allocation of GFA towards HQ by applying a proportional distribution methodology among the operational plants, taking into account their respective installed capacities.

Break-up of the HQ allocation is attached as **Annexure C** of the reply.

ANNEXURE A

FY 2010-11

Sl.No.	Statutory Auditor Qualification	Comments
8.1	During the year a sum of Rs. 5,03,07,500/- has been received under this head for projects making total of Rs. 20,84,08,000/- as on 31.03.2011. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.	The amount of Grant in Aid received during the year is related to different projects like Amethi, Rampur & Bathnaha etc. which were under work-in-progress upto the end of the financial year 2010-11, Hence amount has not been adjusted with the value of Fixed Assets.
9.1	During the year a sum of Rs. 4,38,98,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2011 comes to Rs. 1,80,76,22,000/- No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 23, 22,79,991/- has been provided during the year which comes to approximately 13.15% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the Auditor during course of audit. In case of necessity same will be made available.
9.2	During the year a sum of Rs. 24,09,38,000/- has been received from Government of Bihar under RIDF(NABARD) scheme, Total loan under this scheme as on 31.03.2011 comes to Rs. 99.89,04,000/- No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 6,32,69,583/- has been provided during the year which comes to approximately 8.35% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided	
9.3	The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.	The amount of interest is calculated on the basis of terms & conditions mention is letter issued by Govt. of Bihar at the time of grant of loans. The corporation has time and again sent proposals to State Government for conversion of outstanding loan together with interest accrued thereon into Equity and the matter is pending for finalization. The Board of Directors of the Company has also approved for the conversion of loan into Equity Share Capital and waiver of interest thereon. As the matter is pending for final approval, no provision against penal interest has been made in the financial statements and the same has also not been claimed by the State Government.
9.4	Unsecured Loan does not include a sum of Rs.13.62 Crore being the outstanding interest bearing Loan (including interest) of Power Finance Corporation (PFC) which was taken at an interest rate of 16.75% per annum on 31.03.1992 and finally settled in June 2011 against which only a	The matter of payment of interest was under dispute upto the end of the financial year 2010-11.

	sum of Rs 45.31Lacs has been shown as Accrued Interest of PFC -Loan under the Head Liabilities (Schedule-10). This has resulted in understatement of Unsecured Loan to the tune of Rs. 13.62 crore, overstatement of Liabilities amounting to Rs. 45.31 Lacs and Understatement of interest and finance Charges by Rs.13 17Crore.	
10.2	Fixed Assets includes a sum of Rs. 1,85,800/- under the head of Lease hold land No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	
10.4	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.
10.5	Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10, It appears that is was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.
10.6	Fixed Assets also includes a sum of Rs 12371057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalization treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	
10.7	Fixed Assets also includes a sum of Rs.3662283/- being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation	
10.8	Fixed Assets includes a sum of Rs. 5850642/-being the amount paid through Running Account bill and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	The assets still not completed and it was in work-in-progress hence it was not capitalised

10.9	Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized.Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.	Vehicle purchase and invoice received during the financial year 2009-10.
11.1	Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 105,53,12,045- and Development Expenditure including borrowing cost amounting to Rs. 225,94 45.462-. Besides neagative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs. 1,03,73,276,00 at E.M. Jenagra due to over Capitalisation in Previous Financial years. Reason of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539,38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.	There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31 st March, 2011. The details of development expenditure is available.
11.2	Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 1131.77Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (Rs. 9717966/4), dewatering at Walidad (Rs, 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital-work-In progress as reflected in financial statements is related to different projects which was still in progress for the period ended on 31 st March-2011 hence same has not been written off.
11.3	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	The amount outstanding under the head project repost/ preliminary expenses is related to different projects which was still in progress for the period ended on 31 st March-2011 hence same has not been written off.
11.4	During the current year a sum of Rs. 19,78,982/- related to Head Office Expenses has been allocated to upcoming Sipha project and Rs. 8,50,04,857/- has been allocated to 7 other upcoming Projects on which Previous Year R\$ 2.39,73,480/- was allocated, where no activity were shown and it appears disproportionate compared to basis of allocation disclosed in accounting policy 2.12 of Schedule 17 to the accounts, In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure floss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the projects whose work is not in progress
11.5	Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation	Such calculation is available.
11.6	Break-up of Development Expenditure as shown in Schedule-5.B being Rs. 19.59.75,020.45 does not tally with break-up reflected in Appendix to Schedule-5 (Rs. 19,59,95,536.45)	The difference amount is not material but need to be reconciled
11.7	Capital-work in Progress includes a sum of Rs. 645525/- which is	Such amount is paid against the project

	Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance	which was still in progress for the period ended on 31 st March 2011 hence it has been shown under the capital work in progress.
11.8	Capital Work in Progress includes a sum of Rs. 16,70,837.50 being the amount of addition made during the year in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit	This amount is related to Chandil H.E.Project (Jharkhad).
11.9	Capital Work in Progress includes a sum of Rs.54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant. Western Sone Powerhouse Plant was Capitalised in earlier year and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.	The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity
12.1	It includes Rs. 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted	During the year Rs. 19564332.37 has been adjusted out of the account of materials issue to contractor. The amount outstanding need to be adjusted in forth coming year.
12.2	Inventories includes Capital Stores amounting to Rs 67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.	The amount of capital store is prequed during the recent year hence outstanding as on 31 st March 2011
12.3	Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs 67,787/- Considering it's future usability, in our opinion these should be charged to revenue.	Management is in process of locating nature of these expenses and it will be treated as revenue after proper allocation.
13	Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for its assets and Liabilities has not yet been made. However, Partial Reconciliation clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not malisable and it should be Properly provided and resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors.	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.
14.1	Confirmation related to balance of Rs 14620/shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620 Reconciliation Statement/Reason for such a huge difference was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.
14.2	Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years. In some cases Latest Bank Reconciliation Statement being	Due to division projects between state of Bihar & state of Jharkhand some of the project are manaised by Jharkhand Govt. and the complete document related to those projects are not

	balance tallied with Books of Accounts were not produced. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit /interest Debit were not recorded) are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.	available hence Bank Accounts is un reconciled.
14.3	Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us it was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.	After the maturity receipt of fixed deposit was handed over to bank for resumption hence it was not available during the audit further due to redemption of the short term deposit conformation certificate from bank was not made available during the course of audit.
14.4	Against Opening Balance of stamps in hand amounting to Rs. 4510/- a sum of Rs 1107/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 6110/- has been accounted but due to difference in opening balance book balance of Rs. 9513-has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss	During the year 2009-10 stamp value equal to Rs. 1107/- was in hand and it was consume during the 2010-11 hence such amount was reversed. Similarly stamp value of Rs. 6110/- is purchase and was in hand as on 31 st March 2011.
14.5	No proper adjustment of income tax deducted at source (TDS) where ever deducted, was found. Non adjustment of TDS results in short adjustment of income interest accrued.	The amount of TDS was adjusted in difference financial year as an when required.
14.6	Calculation sheet of interest provision was not available.	The calculation sheet of interest provision is available.
14.7	Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.	Need to be adjusted.
15.1	Advance Recoverable in cash includes Rs. 44.57 crore advances to suppliers/contractors and Rs. 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc. which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise/age-wise break up.	These amount is adjusted from year to year after receiving proper invoices some of the amount like Income tax advance, Income tax deducted as source where not adjusted due to non availability of Income Tax intimation order.
15.2	Loans and Advances includes balances which are revenue in Nature, e.g. Insurance Advance Rs. 22,515/- Advance for Advertisement Rs. 2,75,555/-, Pre-Paid Expenses 10,000/-, LT.C Advance Rs. 56758/-, T.A. Advance Rs. 21,46,145/-, Legal Advance Rs.26,48,612/-, Transfer Travelling Advance Rs. 58721/-Consultancy Advance Rs. 44,250/-, Temporary Advance Rs. 99,68,598/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.	Due to not presentation of adjustments bill or invoices these amount were still outstanding for the period ended on 31 st March 2011 and is adjusted after receiving invoices or adjustment voucher from year to year.

15.3	Loans and Advances includes a sum of Rs. 2,05,20,517/- towards advance to staff comprising Rs. 20,19,484/- towards Salary Advance, Rs 74,380/- towards marriage advance, Rs. 22,21,171/-towards House Building Advance, Rs. 6,64,474/ towards Medical Advance, etc where Employee wise Proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances	Due to not presentation of adjustments bill or invoices these amount were still outstanding for the period ended on 31 st March 2011 and is adjusted after receiving invoices or adjustment voucher from year to year.
15.4	Advances includes opening balance of Rs. 1,00,000.00 being Advance Tax Deposit, detail of which was not available and reason of non-adjustment could not be explained.	The amount is not traceable in books of accounts.
15.5	During the year a sum of Rs. 34,08,568/- has been accounted as income tax deducted at source on interest paid by banks as against interest income of Rs. 66,57,983/-. It seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Position of refund in view of no taxable income could not be explained.	The amount of TDS on interest paid by the bank as against the interest income of Rs. 2,75,57,983/- not against the interest income of Rs. 66,57,983/-.
15.6	Advance for land acquisition amounting to Rs. 5,00,000.00 outstanding since long remains to be adjusted /recovered.	It is outstanding since long time and paid to the land acquisition officer, Bettiah.
15.7	Loans and advances includes a sum of Rs. 42 80 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department,, we are unable to offer our comments on realisibility of this amount and resulting loss.	Corporation was regular communication with Energy Department, Govt. of Bihar for recovery of this amount and it is recoverable.
15.8	Balances of Ranchi Project Office and Inter Unit current account to Rs. 3,98,884.87 outstanding long remain to be reconciled.	Corporation was in process of reconciling the same for the period ended on 31 st March 2011.
16.1	Sundry Creditors amounting to Rs. 96.00 lakh consist of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc. under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinizing the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts. Also it includes debit balances amounting to Rs. 368.24 Lakh resulting into understated Current Liabilities as well as Loans and advances.	Since there is large number of vender associated with the Corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.
16.2	Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly current liability.	This amount was received from Irrigation Department to construct canal / gate related to Sone Western H.E.Project, Dehri since this amount was unspent for up to the period ended on 31.03.2011 hence it was showing as outstanding.
16.3	includes a sum of Rs. 1,73,378/- (Debit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,372/- which is the amount of Gratuity Paid to the employee against which amount was not received from LIC and which should have been charged to revenue. Thus Gratuity Expenses/ Accumulated Loss as well as Liability is	The amount of Gratuity liability is realted to the employees against whome amount is received from LIC and shown under the head of Gratuity liabilities.

	understated by Rs. 2773121-	
16.4	Current Liabilities includes a sum of Rs. 4,68,209/-(including Rs. 83,217/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.	The amount of Rs. 83,217/- written as audit fee includes Rs. 38605/- as statutory audit fee, Rs. 22,000/- as Tax audit fee & Rs 22612/- as Internal Audit fee which are bifurcated in books of account
17.1	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be ensured.	Bank statement was made available during the course of audit of those bank account which were in operation and statement was available from Bank
17.2	Agreement with Bihar State Electricity Board, was not available to verify the rate at which sale of energy is made to them.	Same is available
17.3	Employer's Contribution to Provident Fund has not been shown separately included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary

FY 2011-12

Sl.No.	Statutory Auditor Qualifications	Comments
9.1	During the year a sum of Rs. 1,22,50,000/- has been received under this head for projects making total of Rs. 22,06,58,000/- as on 31.03.2012. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.	The amount of Grant in Aid received during the year is related to different projects like Amethi, Rampur & Bathnaha etc. which were under work in progress upto the end of the financial year 2011-12. Hence amount has not been adjusted with the value of Fixed Assets.
10.1	During the year a sum of Rs. 1,96,07,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2012 comes to Rs. 1,82,72,29,000/- No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 24,08,65,633/- has been provided during the year which comes to approximately 13.32% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the auditors during course of audit. In case of necessity same will be made available.
10.2	During the year a sum of Rs. 336342000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2012 comes to Rs. 1,33,52,46,000/- No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs10,97,89,736/- has been provided during the year which comes to approximately 11.00% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	
10.3	The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.	The amount of interest is calculated on the basis of terms & conditions mention is letter issued by Govt. of Bihar at the time of grant of loans. The Corporation has again sent proposals to State Government for conversion of outstanding loan together with interest accrued thereon into Equity and the matter is pending for finalization. The Board of Directors of the company has also approved for the conversion of loan into Equity Share Capital and waiver of interest thereon. As the matter is pending for final approval, no provision against penal interest has been made in the financial statement and the same has also not been claimed by the State Government.
11.3	Fixed Assets includes a sum of Rs.1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	Lease agreement related to leasehold land is not available, hence not amoritsed.

11.5	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the Fixed Assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.
11.6	Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that is was a case of repairs and maintenance it did not increased the future-benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.
11.7	Fixed Assets also includes a sum of Rs.1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
11.8	Fixed Assets also includes a sum of Rs.72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the current financial year for Western Sone (Dehri) Unit Capitalised during the Financial Year 2011-12 under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is Rs. 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
11.9	Fixed Assets also includes a sum of Rs.36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation	The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.
11.10	Fixed Assets includes a sum of Rs. 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount This has resulted in understatement	The assets still not completed and its was in work in progress hence it was not capitalized.

	of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	
11.11	Fixed Assets includes a sum of Rs. 25,74,696 (Construction of Escape Regulator) and Rs. 15,05,506 (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the current financial Year as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	Assets are capitalized on the basis of running bill and final bill may be sent submitted by the contractor in later year.
11.12	A sum of Rs. 9242/- has also been noticed as addition to fixed assets under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.	The value of assets is more than Rs 5000 hence same has been capitalized.
11.13	Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.	Vehicle is purchased during the FY 2009-10 and invoice for the same is available.
12.1	Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 1,24,54,40,856/- and Development Expenditure including borrowing cost amounting to Rs. 2,51,84,99,668 Besides negative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs, 1,03,73,276.00 at E.M. Jainagra due to over Capitalisation in Previous Financial years. Reason of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.	There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31 st March 2012. The details of development expenditure is available
12.2	Negative balance under the head of Electric Equipment and Fabrication amounting to Rs. 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Current Financial year. Reason of negative balance could not be explained.	It is not the case of over capitalization it is due to inter head transfer of different ledger account.
12.3	Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 6435 83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-1 (Rs. 9717966-), dewatering at Walidad (Rs. 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction/Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital work in progress as reflected in financial statement is related to different projects which were still in progress for the period ended 31 st March 2012 hence same has not been written off.
12.4	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not	The amount outstanding under the head project report / preliminary expenses is related to different projects which was

	be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	still in progress for the period ended on 31 st March-2012 hence same has not been written off.
12.5	During the current year a sum of Rs 6, 04, 90,058/-related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development / activity were made on these Projects. Thus till now a sum of Rs. 13,44,37,746/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the project whose work is not in progress
12.6	During the current year a sum of Rs.52,61,414/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to allocate Head Office Expenses amounting to Rs.82492/- to Lower Ghaghari project resulting understatement of revenue expenditure loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the project whose work is not in progress.
12.7	We have noticed that in compliance of Accounting Policy disclosed in Notes 2/11 and 2.12 of Schedule 17 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/Fixed Assets.	Same was charged to Capitalized and Credit to Income Account as and when required.
12.8	Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.	Such calculation is available.
12.9	We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.	Same was still pending with Government of Bihar
12.10	Capital-work in Progress includes a sum of Rs. 645525/- which is Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.	Such amount is paid against the project which was still in progress for the period ended on 31 st March 2012 hence it has been shown under the capital work in progress.
12.11	Capital Work in Progress includes a sum of Rs. 16,70,837 50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit	The amount is related to Chandil H.E.Project (Jharkhand)
12.12	Capital Work in Progress Includes a sum of Rs 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010- 11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y, 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in	The amount has been show under capital work in progress due to construction of additional civil structure of enhancement of capacity.

	understatement of Accumulated Loss and Overstatement of Capital Work in Progress	
13.1	It includes Rs. 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.	The amount of Materials issue to contractor Rs. 53,44,398/- need to be adjusted in forth coming year.
13.2	Inventories includes Capital Stores amounting to Rs 67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding	The amount of capital store is procured during the recent year hence outstanding as on 31 st March 2012.
13.3	Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs. 67,787/- Considering it's future usability, in our opinion these should be charged to revenue.	Management is in progress of locating nature of these expenses and it will be treated as revenue after proper allocation.
13.4	Against Opening Balance of stamps in hand amounting to Rs. 309689/-, a sum of Rs. 395885/-has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 348595/- has been accounted but due to difference in opening balance book balance of Rs. 262399/- has been shown. This has resulted in Understatement of stamp in hand by Rs. 86196.00 and overstatement of expenses/loss.	No such balance is available in books of accounts.
14	<u>Sundry Debtors:</u> Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in FY 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to express our opinion on it's reliability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors:	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.
15.1	Confirmation related to balance of Rs. 14620/- shown in Public Ledger Account No. 8448 dt 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620/- Reconciliation Statement / Reason for such a huge difference was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.
15.4	Balance of stamps in hand amounting to Rs. 9513/-, a sum of Rs. 6110 has been reversed during the current Year related to consumption of Previous Year Closing stock of Rs 9003- has been accounted but due to difference in opening balance book balance of Rs. 12406/-has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss.	During the year 2010-11 stamp value equal to Rs. 6110/- was in hand and it was consume during the 2011-12 hence such amount was reversed. Similarly stamp value of Rs. 12406/- is purchase and was in hand as on 31st March 2012.
17.1	Sundry Creditors amounting to Rs. 100.65 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party/and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinizing the status of	Since there is large number of vender associated with the Corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of sundry creditors was adjusted from year to year after receiving necessary bill or invoices.

	liability no longer required to be written back, we are unable to comment on its impact on the loss and other accounts.	
17.2	Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.	This amount was received from Irrigation Department to construct canal / gate related to Sone Western H.E. Project, Dehri since this amount was unspent for up to the period ended on 31.03.2011 hence it was showing as outstanding.
17.3	Liability includes a sum of Rs. 228828/- (Credit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,3721/- which is the amount of Gratuity Paid to the employee against which amount was not received from LIC and which should have been charged to revenue. During the Current a sum of Rs. 10,36,432/- was received from LLC against which a sum of Rs.6342261-only was paid during the year and balance Rs. 402206/- is payable in next Financial Year. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by Rs. 277312/-	The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities
17.4	Current Liabilities include a sum of Rs. 477243/-(including Rs. 66944/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.	The amount of Rs. 83,217/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee which are bifurcated in books of account
17.5	Current Liabilities include a sum of Rs: 13,92,198/- (Debit) being Grant in Aid receivable from Govt of Bihar since long but its nature and reason for outstanding since long time could not be explained to us.	This balance stands since long time and not traceable.
17.6	Current Liabilities include a sum of Rs.45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long During the year a sum of Rs. 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back for the year as well as liability is overstated to that extent.	It will be adjusted in due course.
18.1	During the Year a sum of Rs. 13.62 crores was paid towards interest on PFC loan. The amount relates to previous accounting year for which proper provisions were not made in particular Financial year. The amount paid should have been treated as prior period expenses but the corporation has treated as expenses of current financial year.	The matter of payment of interest was under dispute upto the end of the financial year 2011-12
18.2	A sum of Rs. 3629730/- was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and the amount was reimbursable to the Corporation but the same has been treated as expenses for the year, which resulted into overstatement of expenses and understatement of Current Assets.	The amount is not since to be receivable from Government in near future hence it is charged to P/L Account. As soon as it will become receivable or receipt it will be treat as income
18.3	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.	Bank statement was made available during the course of audit of those bank accounts which were in operation and statement was available from Bank
18.4	Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them. 18.5.	Same is available
18.5	Employer's Contribution to Provident Fund has not been shown separately included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary



संख्या RAO(AMG-I)/2021-22/71
No.

भारतीय लेखा तथा लेखा परीक्षा विभाग
कार्यालय प्रधान महालेखाकार (लेखापरीक्षा) बिहार
वीरचन्द पटेल मार्ग, पटना-800 001
Indian Audit & Accounts Department
Office of the Principal Accountant General (Audit) Bihar
Birchand Patel Marg, Patna-800 001

सेवा में,

दिनांक/Date : 30.11.2021

प्रबंध निदेशक,

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लिमिटेड

सोन भवन

वीरचन्द पटेल मार्ग

पटना - 800001

M.A.
31/12
जो अग्राम...

विषय:- 31 मार्च 2014 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लिमिटेड के लेखाओं पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी।

महाशय,

31 मार्च 2014 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लिमिटेड के वार्षिक लेखा पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अन्तर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी संलग्न की जा रही है।

इसे कम्पनी के वार्षिक आम सभा में प्रस्तुत करें एवं प्रस्तुतीकरण की तिथि एवं सभा की कार्यवाही की प्रति इस कार्यालय को भेजने की कृपा करें। वार्षिक प्रतिवेदन की मुद्रित प्रति भी इस कार्यालय को अभिलेख हेतु भेजे।

विश्वासभाजन

(Signature)

(आदर्श अग्रवाल)

उप महालेखाकार (एओएमजीओ-1)

अनुलग्नक : यथोपरि

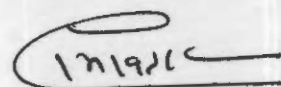
**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA
UNDER SECTION 143(6)(b) OF THE COMPANIES ACT, 2013 ON THE
FINANCIAL STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER
CORPORATION LIMITED FOR THE YEAR ENDED 31 MARCH 2014**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2014 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act) is the responsibility of the management of the company. The statutory auditor/auditors appointed by the Comptroller and Auditor General of India under section 139(5) or 139(7)¹ of the Act is/are responsible for expressing opinion on the financial statements under section 143 of the Act based on independent audit in accordance with the standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 18 December 2020.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit of the financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2014 under section 143(6)(a) of the Act. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and is limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records.

During the course of my supplementary audit the company did not provide sufficient and appropriate documents/ records/ information as detailed in Annexure. I conclude that the possible effects on the financial statements of undetected misstatements due to inadequate furnishing of records could be material and pervasive. Hence, I disclaim an opinion on the financial statements of the company.

**For and on behalf of the
Comptroller & Auditor General of India**



**(Ramawatar Sharma)
Accountant General (Audit) Bihar**

Place : Patna

¹ In case of first auditors appointed by C&AG

Annexure**List of records/information not made available to Audit:-**

Sl. No.	Particulars of records/information not made available to Audit	Money Value (Rs. In Crore)
1.	Details of Short-term loans & advances not made available to audit.	54.98
2.	Details of Cash & bank balance not made available to audit. BRS and bank statement in respect of most of the bank accounts not made available to audit. Hence, audit is unable to comment on the correctness and authenticity of BRS along with Cash & Bank Balance.	53.58
3.	Inventories had been carrying in accounts for last several years but no detail of inventories was made available to audit. The physical verification of inventories was also not done and no system of valuation of inventories was observed.	1.25
4.	Details of CWIP not made available to audit. No project-wise details of fund received and expenditure made there from had been made available to audit.	478.36
5.	No fixed asset register or physical verification report of fixed assets were made available to audit. As such, audit is unable to comment on the authenticity or correctness of Fixed Assets.	169.62
	Total	757.79
	Percentage to total Assets/Liabilities of Balance Sheet	97 %



(Adarsh Agarwal)

Dy. Accountant General (AMG-I)

Special Post



संख्या TSC-II/20-21/88
No.

भारतीय लेखा तथा लेखा परीक्षा विभाग
कार्यालय प्रधान महालेखाकार (लेखापरीक्षा) बिहार
वीरचन्द पटेल मार्ग, पटना-800 001
Indian Audit & Accounts Department
Office of the Principal Accountant General (Audit) Bihar
Birchand Patel Marg, Patna-800 001

Date 24/11/2020



Pl. place in
file quickly
for Board
meeting.
14/12/20

सवा में

प्रबंध निदेशक,
बिहार राज्य जल विद्युत निगम,
लोन भवन,
पटना- 800 001

विषय:- 31 मार्च 2011, 31 मार्च 2012 तथा 31 मार्च 2013 को समाप्त हुए वर्षों के लिए बिहार राज्य जल विद्युत निगम लिमिटेड के लेखाओं पर कम्पनी अधिनियम, 1956 की धारा 619 (4) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी।

महाशय,

31 मार्च 2011, 31 मार्च 2012 तथा 31 मार्च 2013 को समाप्त हुए वर्षों के लिए बिहार राज्य जल विद्युत निगम लिमिटेड के लेखाओं पर कम्पनी अधिनियम, 1956 की धारा 619 (4) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी संलग्न की जा रही है।

इसे कम्पनी के वार्षिक आम सभा में प्रस्तुत करें एवं प्रस्तुतीकरण की तिथि एवं सभा की कार्यवाही की प्रति इस कार्यालय को भेजने की कृपा करें। वार्षिक प्रतिवेदन की मुद्रित प्रति भी इस कार्यालय को अभिलेख हेतु भेजे।

विश्वासभाजन

उप महालेखाकार (AMG-I)

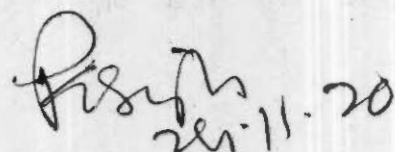
अनुलग्नक : यथोपरि

**DRAFT COMMENTS OF THE COMPTROLLER & AUDITOR GENERAL OF INDIA
UNDER SECTION 619(4) OF THE COMPANIES ACT, 1956 ON THE FINANCIAL
STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER CORPORATION
LIMITED FOR THE YEAR ENDED 31 MARCH 2012.**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2012 in accordance with the financial reporting framework prescribed under the Companies Act, 1956 is the responsibility of the management of the company. The statutory auditor appointed by the Comptroller & Auditor General of India under section 619 (2) of the Companies Act, 1956 is responsible for expressing opinion on these financial statements under section 227 of the Companies Act, 1956 based on independent audit in accordance with the auditing and assurance standards prescribed by their professional body, the Institute of Chartered Accountants of India. This is stated to have been done by them vide their Audit Report dated 05 February 2020.

This supplementary audit has been carried out independently without access to the working papers of the Statutory Auditors and is limited primarily to inquiries of the Statutory Auditors and company personnel. A selective examination of the accounting entries could not be done in absence of basic accounting records. We have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express any opinion on the financial statements of the company.

**For and on behalf of the
Comptroller & Auditor General of India**


21.11.20

**Place : Patna
Date :**

**(Praveen Kumar Singh)
Principal Accountant General (Audit),
Bihar, Patna**

(225)

**DRAFT COMMENTS OF THE COMPTROLLER & AUDITOR GENERAL OF INDIA
UNDER SECTION 619(4) OF THE COMPANIES ACT, 1956 ON THE FINANCIAL
STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER CORPORATION
LIMITED FOR THE YEAR ENDED 31 MARCH 2013.**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2013 in accordance with the financial reporting framework prescribed under the Companies Act, 1956 is the responsibility of the management of the company. The statutory auditor appointed by the Comptroller & Auditor General of India under section 619 (2) of the Companies Act, 1956 is responsible for expressing opinion on these financial statements under section 227 of the Companies Act, 1956 based on independent audit in accordance with the auditing and assurance standards prescribed by their professional body, the Institute of Chartered Accountants of India. This is stated to have been done by them vide their Audit Report dated 19 August 2020.

This supplementary audit has been carried out independently without access to the working papers of the Statutory Auditors and is limited primarily to inquiries of the Statutory Auditors and company personnel. A selective examination of the accounting entries could not be done in absence of basic accounting records. We have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express any opinion on the financial statements of the company.

**For and on behalf of the
Comptroller & Auditor General of India**

Praveen
24.11.20

**Place : Patna
Date :**

**(Praveen Kumar Singh)
Principal Accountant General (Audit),
Bihar, Patna**

(22)

**DRAFT COMMENTS OF THE COMPTROLLER & AUDITOR GENERAL OF INDIA
UNDER SECTION 619(4) OF THE COMPANIES ACT, 1956 ON THE FINANCIAL
STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER CORPORATION
LIMITED FOR THE YEAR ENDED 31 MARCH 2011.**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2011 in accordance with the financial reporting framework prescribed under the Companies Act, 1956 is the responsibility of the management of the company. The statutory auditor appointed by the Comptroller & Auditor General of India under section 619 (2) of the Companies Act, 1956 is responsible for expressing opinion on these financial statements under section 227 of the Companies Act, 1956 based on independent audit in accordance with the auditing and assurance standards prescribed by their professional body, the Institute of Chartered Accountants of India. This is stated to have been done by them vide their Audit Report dated 31 October 2019.

This supplementary audit has been carried out independently without access to the working papers of the Statutory Auditors and is limited primarily to inquiries of the Statutory Auditors and company personnel. A selective examination of the accounting entries could not be done in absence of basic accounting records. We have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express any opinion on the financial statements of the company.

**For and on behalf of the
Comptroller & Auditor General of India**

Praveen
24.11.20

**Place : Patna
Date :**

**(Praveen Kumar Singh)
Principal Accountant General (Audit),
Bihar, Patna**

SARFED POST



संख्या RA0 (AM6-2)/22-24/14-15/AA/65
No.

भारतीय लेखा तथा लेखा परीक्षा विभाग
कार्यालय प्रधान महालेखाकार (लेखापरीक्षा) बिहार
वीरचंद पटेल मार्ग, पटना-800 001
Indian Audit & Accounts Department
Office of the Principal Accountant General (Audit) Bihar
Birchand Patel Marg, Patna-800 001

दिनांक/Date: 30.8.2023

सेवा में,

प्रबंध निदेशक,

बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड

सोन भवन

वीरचंद पटेल मार्ग

पटना - 800001

विषय:- 31 मार्च 2015 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड के लेखाओं पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी।

महोदय,

31 मार्च 2015 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड के वार्षिक लेखा पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अन्तर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी संलग्न की जा रही है।

इसे कम्पनी के वार्षिक आम सभा में प्रस्तुत करें एवं प्रस्तुतीकरण की तिथि एवं सभा की कार्यवाही की प्रति इस कार्यालय को भेजने की कृपा करें। वार्षिक प्रतिवेदन की मुद्रित प्रति भी इस कार्यालय को अभिलेख हेतु भेजे।

विश्वासभाजन

अनुलग्नक : यथोपरि

उप महालेखाकार (एओएमजी-1)

**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA
UNDER SECTION 143(6)(b) OF THE COMPANIES ACT, 2013 ON THE FINANCIAL
STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER CORPORATION
LIMITED FOR THE YEAR ENDED 31 MARCH 2015**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2015 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act) is the responsibility of the management of the company. The statutory auditor/auditors appointed by the Comptroller and Auditor General of India under section 139(5) or 139(7) of the Act is/are responsible for expressing opinion on the financial statements under section 143 of the Act based on independent audit in accordance with the standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 05 December 2022.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit of the financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2015 under section 143(6)(a) of the Act. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and is limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records.

Based on my supplementary audit, I would like to highlight the following significant matters under Section 143 (6) (b) of the Act which have come to my attention and which in my view are necessary for enabling a better understanding of the financial statements and the related audit report.

A. Balance Sheet

Current Assets

Short Term Loans & Advances (Note no. 11): ₹ 6235.62 Lakh

1. The above includes a sum of ₹ 69.92 lakh on account of (i) Recoverables : ₹17.66 lakh (ii) Prepaid Expenses- Insurance : ₹0.10 lakh (iii) Receivables -Energy Dept., Govt. of Bihar : ₹43.17 lakh (iv) Advance for land acquisition : ₹ 5.00 lakh (v) Ranchi Project Office : ₹ 2.38 lakh and (vi) Inter Unit Current Account : ₹1.61 lakh. Details of the same could not be found in the

records. These items are being carried forward for long. Thus, recovery/adjustment of these items seems very remote. Suitable provisions should have been made in the books of accounts. Non-provision of the same has resulted into overstatement of Short Term Loans & Advances with corresponding understatement of provision/loss for the year by ₹ 69.92 lakh each.

B. Profit & Loss Account

Expenditure

Cost of Materials Consumed

Operation and Maintenance Charge of Power House (Note no. 14): ₹ 264.44 Lakh

1. The above does not include an amount of ₹ 5.70 lakh which was due to be paid to M/s Prakash Power Engineering works on account of operation & maintenance charges of Kataiya Power House for the period from November 2014 to March 2015 (@₹1.00 lakh per month+ Service tax @14%). The Company has not made provision of the dues amount for the period. Non-provision of the same has resulted into understatement of Operations & Maintenance Charges and Loss for the year to the tune of ₹ 5.70 lakh each.

Employee benefit expenses (Note 15)

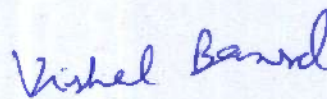
Salary & Allowance- ₹623.99 lakh

2. The above does not include an amount of ₹ 17.19 lakh as the salary of the security personnel of the contractor (M/s Aparna Detective & Security Services Pvt Ltd.) posted at various Hydel projects of the Company during 2014-15. As these salaries were pertaining to the year 2014-15, suitable provision should have been made. Non provision of the same has resulted into understatement of expenditure and losses to the extent of ₹17.19 lakh each.

For and on behalf of the
Comptroller & Auditor General of India

Place : Patna

Date :



(Vishal Bansal)
Pr. Accountant General (Audit) Bihar

speed post



संख्या RAO(AMH-3)/22-24/15-16/AA/69
No.

भारतीय लेखा तथा लेखा परीक्षा विभाग
कार्यालय प्रधान महालेखाकार (लेखापरीक्षा) बिहार
वीरचंद पटेल मार्ग, पटना-800 001

Indian Audit & Accounts Department

Office of the Principal Accountant General (Audit) Bihar
Birchand Patel Marg, Patna-800 001

दिनांक/Date : 30.8.2023

संवा में,

प्रबन्ध निदेशक,

बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड

सोन भवन

वीरचंद पटेल मार्ग

पटना - 800001

विषय:- 31 मार्च 2016 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड के लेखाओं पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी।

महोदय,

31 मार्च 2016 को समाप्त हुए वर्ष के लिए बिहार स्टेट हाईड्रो इलेक्ट्रिक पावर कारपोरेशन लिमिटेड के वार्षिक लेखा पर कम्पनी अधिनियम, 2013 की धारा 143(6)(b) के अंतर्गत भारत के नियंत्रक-महालेखापरीक्षक की टिप्पणी संलग्न की जा रही है।

इसे कम्पनी के वार्षिक आम सभा में प्रस्तुत करें एवं प्रस्तुतीकरण की तिथि एवं सभा की कार्यवाही की प्रति इस कार्यालय को भेजने की कृपा करें। वार्षिक प्रतिवेदन की मुद्रित प्रति भी इस कार्यालय को अभिलेख हेतु भेजे।

विश्वासभाजन

अनुलग्नक : यथापरि

उप महालेखाकार (ए0एम0जी0-1)

**COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA
UNDER SECTION 143(6)(b) OF THE COMPANIES ACT, 2013 ON THE FINANCIAL
STATEMENTS OF BIHAR STATE HYDROELECTRIC POWER CORPORATION
LIMITED FOR THE YEAR ENDED 31 MARCH 2016**

The preparation of financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2016 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act) is the responsibility of the management of the company. The statutory auditor/auditors appointed by the Comptroller and Auditor General of India under section 139(5) or 139(7) of the Act is/are responsible for expressing opinion on the financial statements under section 143 of the Act based on independent audit in accordance with the standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 05 December 2022.

I, on behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit of the financial statements of Bihar State Hydroelectric Power Corporation Limited for the year ended 31 March 2016 under section 143(6)(a) of the Act. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and is limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records.

Based on my supplementary audit, I would like to highlight the following significant matters under Section 143 (6) (b) of the Act which have come to my attention and which in my view are necessary for enabling a better understanding of the financial statements and the related audit report.

A. Balance Sheet

Current Assets

Short Term Loans & Advances (Note no. 11): ₹ 6235.62 Lakh

1. The above includes a sum of ₹ 69.92 lakh on account of (i) Recoverables: ₹ 17.66 lakh (ii) Prepaid expenses- Insurance : ₹ 0.10 lakh (iii) Receivables -Energy Dept., Govt. of Bihar : ₹ 43.17 lakh (iv) Advance for land acquisition : ₹ 5.00 lakh (v) Ranchi Project Office : ₹ 2.38 lakh and (vi) Inter Unit Current Account : ₹ 1.61 lakh. Details of the same could not be found in the records. These items are being carried forward in accounts for long. Thus, recovery/adjustment

of these items seems very remote. Suitable provisions should have been made in the books of accounts. Non-provision of the same has resulted into overstatement of Short Term Loans & Advances with corresponding understatement of provision/loss for the year by ₹ 69.92 lakh each.

During the Supplementary audit of 2013-14 and 2014-15, the same point was observed. However, there is not any progress. The same balances have been carried forward year after year.

B. Profit & Loss Account

Expenditure

Cost of Materials Consumed

Operation and Maintenance Charge of Power House (Note no. 14): ₹ 179.99 Lakh

1.The above does not include an amount of ₹ 13.68 lakh which was due to be paid to M/s Prakash Power Engineering works on account of operation & maintenance charges of Kataiya Power House for the period from April 2015 to March 2016 (@₹ 1.00 lakh per month +Service tax @14%). The Company has not made provision of the dues amount for the period.

Non-provision of the same has resulted into understatement of Operations & Maintenance Charges as well as loss for the year to the tune of ₹ 13.68 lakh each.

Employee benefit expenses (Note 15)

Salary & Allowance- ₹648.71 lakh

2.The above does not include an amount of ₹ 14.04 lakh as the salary of the security personnel of the contractor (M/s Aparna Detective & Security Services Pvt Ltd.) posted at various Hydel projects of the Company during 2015-16.As these salaries were pertaining to the year 2015-16,suitable provision should have been made.

Non provision of the same has resulted into understatement of expenditure and losses to the extent of ₹14.04 lakh each.

For and on behalf of the

Comptroller & Auditor General of India

Place : Patna

Date :

Vishal Bansal

(Vishal Bansal)

Pr. Accountant General (Audit) Bihar

वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परामर्शित।

पत्रांक - प्र02/ज0वि0नि0बा0न0-14/03 (खण्ड-II)

पटना, दिनांक -

सेवा में,

महालेखाकार (लेखा एवं हक),

बिहार, वीरचन्द पटेल मार्ग, पटना।

विषय:-

बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की स्वीकृत योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2014-15 में 10.00 करोड़ (दस करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश:

स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होलिडिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये की स्वीकृति वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1710 दिनांक 22.03.2013 द्वारा दी गयी थी। वित्तीय वर्ष 2012-13 में 1.00 करोड़ रुपये एवं वित्तीय वर्ष 2013-14 में राज्यादेश संख्या-996 दिनांक 12.03.2014 द्वारा स्वीकृत 11.00 करोड़ रुपये के विरुद्ध आवंटन संख्या-95 दिनांक 21.03.2014 द्वारा 6.00 करोड़ रुपये विमुक्त किये गये थे। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2013-14 तक कुल 7.00 करोड़ रुपये बिहार राज्य जल विद्युत निगम को उपलब्ध कराया गया है।

2. राज्य सरकार द्वारा बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की स्वीकृत योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2014-15 में 10.00 करोड़ (दस करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

3. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं0-10 विपत्र कोड-पी0 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत प्रथम अनुपूरक के वित्तीय वर्ष-2014-15 में उपबंधित राशि से विकलनीय होगा।

4. ऋण की शर्तें निम्नवत् होगी

(क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।

(ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।

(ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।

(घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।

(ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

5. इस राशि की निकासी उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

6. बिहार राज्य जल विद्युत निगम लि०, पटना के पक्ष में बैंकर्स चेक के रूप में की जानेवाली निकासी के बदले अब पी०एल० खाता सं०-8448 में की जाएगी।

निकासी की जानेवाली राशि का व्यय 0024 (L8448001200024) एवं प्राप्तियाँ 0024 (K8448001200024) के अन्तर्गत होंगी।

7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।

8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।

9. उक्त योजना की स्वीकृति हेतु सक्षम प्राधिकार मंत्रिपरिषद् का अनुमोदन संचिका संख्या-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II) के पृष्ठ संख्या 62 पर दिनांक 19.03.2013 को प्राप्त है।

10. राज्यादेश में आन्तरिक वित्तीय सलाहकार की सहमति संचिका संख्या-प्र०२/ज०वि०नि० बा०न०-14/०३ (खण्ड-II) के पृष्ठ संख्या-83/टि० पर दिनांक 12.11.2014 को प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

अपर सचिव, ऊर्जा विभाग।

ज्ञापांक-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

अपर सचिव, ऊर्जा विभाग।

ज्ञापांक-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

अपर सचिव, ऊर्जा विभाग।



बिहार सरकार
ऊर्जा विभाग

पत्रांक - प्र02/ज0वि0नि0बा0न0-14/03 (खण्ड-II)

पटना, दिनांक - _____

वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परागर्शित।

सेवा में,

महालेखाकार (लेखा एवं हक),
बिहार, वीरचन्द पटेल मार्ग, पटना।

विषय:-

बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2013-14 में 11.00 करोड़ (ग्यारह करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश: स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होल्टिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये आकलित किये गये हैं।

2. दिनांक 28.02.2013 को प्राधिकृत समिति की हुई बैठक में प्रशासी विभाग के प्रस्ताव पर बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1710 दिनांक 22.03.2013 द्वारा 1.00 (एक) करोड़ रुपये की स्वीकृति प्रदान की गयी थी तथा वित्तीय वर्ष 2013-14 में 11.00 करोड़ रुपये की स्वीकृति दी जानी है।

3. राज्य सरकार द्वारा बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2013-14 में 11.00 करोड़ (ग्यारह करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं०-10 विपत्र कोड-पी० 6801002010101 विषय शीर्ष 6801 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2013-14 में उपबंधित राशि के अन्तर्गत किया जाएगा।

5. ऋण की शर्तें निम्नवत् होगी

(क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।

(ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।

(ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।

(घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।

(ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

कृ०पृ०ऊ०

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 710 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
9. वित्त विभाग के यू०ओ०आर० संख्या 422 दिनांक 04.03.2014 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापां ह-प्र०२/ज०वि०नि०बा०न०-14/03 (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापां क-प्र०२/ज०वि०नि०बा०न०-14/03 (खण्ड-II) 996

पटना दिनांक 12/3/14

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

पत्रांक-प्र2/ज0 वि0 नि0-07/12-

सेवा में,

महालेखाकार बिहार,

वीरचन्द पटेल पथ, पटना।



पटना, दिनांक

CCE

Shree Arun

19.3.14

विषय:-बिहार राज्य जल विद्युत निगम लि०, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2013-14 में 9.00 करोड़ (नौ करोड़ रुपये) रुपये ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1173 दिनांक 28.02.2013 द्वारा रू० 5.00 करोड़ रुपये की स्वीकृति दी गयी थी तथा वित्तीय वर्ष 2013-14 में 9.00 करोड़ रुपये ऋण की स्वीकृति दी जानी है।

2. राज्य सरकार द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2013-14 में 9.00 करोड़ (नौ करोड़ रुपये) रुपये ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

3.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

कृ०पृ०रू०.....



4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं०-10- निपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2013-14 में उपबंधित राशि के अन्तर्गत किया जाएगा।
5. इस राशि की निकासी उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
6. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
8. वित्त विभाग के यू०ओ०आर० संख्या-476 दिनांक 04.03.2014 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापांक- प्र२/ज० वि० नि०-07/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापांक- प्र२/ज० वि० नि०-07/12- 1018

पटना दिनांक 12/3/14

प्रतिलिपि:-वित्त विभाग, (आय व्यय शाखा)/वित्त विभाग, डाटा कोषांग शाखा/उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग, पटना/प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के प्रभारी सहायक, ऊर्जा विभाग, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

बिहार सरकार
ऊर्जा विभाग

पत्रांक:-प्र2/ज0वि0नि0-01/10-

पटना, दिनांक-

शुद्धि-पत्र

ऊर्जा विभाग के निम्नलिखित राज्यादेश/आवटनादेश में राशि की निकासी के संबंध में बैंकर्स चेक के माध्यम से उल्लिखित है :-

क्र०सं०	राज्यादेश का पत्रांक/दिनांक	कंडिका संख्या	आवटनादेश का पत्रांक/दिनांक	कंडिका संख्या	राशि (लाख में)
1	5255/20.11.13	7	48/26.11.13	6	747.37
2	5254/20.11.13	7	47/26.11.13	6	316.45
3	51/30.01.14	7	59/23.01.14	6	390.81
4	52/03.01.14	7	60/23.01.14	6	140.61
5	939/06.03.14	6	82/10.03.14	6	83.59
6	1018/12.03.14	5	87/13.03.14	6	900.00
7	996/12.03.14	6	95/21.03.14	6	600.00

2. उपर्युक्त राज्यादेश/आवटनादेश के द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना के पक्ष में बैंकर्स चेक के रूप में की जानेवाली निकासी के बदले अब पी०एल० खाता सं०-8448 में की जाएगी।

तदनुसार उपर्युक्त उल्लिखित राज्यादेश/आवटनादेश को संशोधित समझा जाए।

3. शेष कंडिका यथावत रहेगा।

ह०/-
संयुक्त सचिव,
ऊर्जा विभाग, बिहार, पटना।

झापांक:- प्र2/ज0वि0नि0-01/10- 12/9

पटना, दिनांक- 27/3/14

प्रतिलिपि:- महालेखाकार, बिहार, पटना/कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

संयुक्त सचिव,
ऊर्जा विभाग, बिहार, पटना।

वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परामर्शित।

सेवा में,

महालेखाकार (लेखा एवं हक),
बिहार, गीरचन्द पटेल मार्ग, पटना।

विषय:- बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश: स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होल्टिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये आकलित किये गये हैं।

2. दिनांक 28.02.2013 को प्राधिकृत समिति की हुई बैठक में प्रशासी विभाग के प्रस्ताव पर बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की गई है।

3. राज्य सरकार द्वारा बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 विजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष 00- लघु शीर्ष-201- पन विजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं०-10 विपत्र कोड- पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

5. ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदागगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कार्रवाई प्रारम्भ की जा रही है।
9. वित्त विभाग के यू० ओ० आर० संख्या 718 दिनांक 21.03.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

६०/-

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

ज्ञापांक- प्र०२/ज०वि०नि०वा०न०-14/03 (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

६०/-

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

ज्ञापांक- प्र०२/ज०वि०नि०वा०न०-14/03 (खण्ड-II) 17/0

पटना दिनांक 22/3/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

22/3/13

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

प्रबंध निदेशक

जल विभाग
सोनभवन पटना

Rs. 600.00 Lacs

मुख्य अभियन्ता (वि०) कोषाग
प्र.सं. 549
दिनांक 05.03.13

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/ज0 वि0 नि0-10/12-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

146/5/13

विषय:-बिहार राज्य जल विद्युत निगम लि०, पटना को डागमारा (130 मेगावाट) जल विद्युत परियोजना के विस्तृत परियोजना प्रतिवेदन एवं इससे संबंधित अन्य कार्य हेतु रू० 6.00 करोड़ (छः करोड़) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रू० 6.00 करोड़ (छः करोड़) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि०, पटना को डागमारा (130 मेगावाट) जल विद्युत परियोजना के विस्तृत परियोजना प्रतिवेदन एवं इससे संबंधित अन्य कार्य हेतु रू० 6.00 करोड़ (छः करोड़) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रू० 6.00 करोड़ (छः करोड़) ऋण की स्वीकृति प्रदान की गई है।

2.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

3. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं०-10- विपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

4. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

30000.00
प्रबंधक (वित्त)

परामर्श (सहायक)

5/3/13

4494 M/F2A
05/03/13

5. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
6. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
7. वित्त विभाग के यू० ओ० आर० संख्या-379 दिनांक 13.02.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(नागेन्द्र कुमार सिंह)

सरकार के उप सचिव।

ज्ञापांक-प्र२/ज० वि० नि०-10/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के उप सचिव।

ज्ञापांक- प्र२/ज० वि० नि०-10/12- 1174

पटना दिनांक 28/2/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

28/2/13

सरकार के उप सचिव।

Rs. 500.00 Lacs.

बिहार सरकार
ऊर्जा विभाग

मुख्य अभियन्ता (वि०) कोषाग
प्र.सं. 548
दिनांक 05.3.13

पत्रांक-प्र2/ज0 वि0 नि0-07/12-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

147
05/03/13

विषय:-बिहार राज्य जल विद्युत निगम लि0, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रु0 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रु0 की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रु0 5.00 करोड़ (पाँच करोड़) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि0, पटना द्वारा सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रु0 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रु0 की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रु0 5.00 करोड़ (पाँच करोड़) ऋण की स्वीकृति प्रदान की गई है।

2.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ.) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

3.

उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं0-10- विपत्र कोड-पी0 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

4.

इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि0, पटना को किया जाएगा।

रु. 500.00 लाख
मुख्य अभियन्ता (वि०) कोषाग
05.3.13
परामर्शी (फ.आ. बाल)

3/5/13

2594 M(FRA)
05/03/13

5. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
6. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
7. वित्त विभाग के यू० ओ० आर० संख्या-378 दिनांक 13.02.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(नागेन्द्र कुमार सिंह)

सरकार के उप सचिव।

ज्ञापांक-प्र२/ज० वि० नि०-07/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के उप सचिव।

ज्ञापांक- प्र२/ज० वि० नि०-07/12-

1173

पटना दिनांक 28/2/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

र/के०के०
28/2/13

सरकार के उप सचिव।

28/2/13



पत्रांक-प्र1/विविध निगम-18/10-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:- बिहार राज्य जल विद्युत निगम लि०, पटना को मधेपुरा जिलान्तर्गत अरारघाट (4X1.75 मे० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2012-13 में रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा कोशी मधेपुरा जिलान्तर्गत अरारघाट (4X1.75 मे० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 6544.00 लाख (पैंसठ करोड़ चौवालीस लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०- 3360 दिनांक 3/8/12 द्वारा प्रदान की गई है एवं इसके विरुद्ध नाबार्ड द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत स्वीकृत किए जाने वाले ऋण रु० 6207.30 लाख (बासठ करोड़ सात लाख तीस हजार) की स्वीकृति प्रदान की गई है। शेष रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) राज्य सरकार बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध कराया जाना है।

2. उक्त अलोक में राज्य सरकार ने वित्तीय वर्ष 2012-13 में बिहार राज्य जल विद्युत निगम लि०, पटना को राज्यांश के रूप में रुपये रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) के ऋण की स्वीकृति प्रदान की है।
3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।
4. ऋण की अन्य शर्तें निम्नवत् होगी :-
(क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
(ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
(ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
(घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।
5. उक्त राशि 654.40 लाख (छः करोड़ चौवन लाख चालीस हजार) की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00-लघु शीर्ष-201-पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0105-बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड)-मांग सं०-10-विपत्र कोड-पी० 6801002010105 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि से विकलनीय होगा।

30/8/12
[Signature]
6/8/12

श्री एन दास पसना
14/8/12

अलोक
16/8/12

- 28
6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकस चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
 7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
 8. वित्त विभाग के यू०ओ०आर० संख्या-शून्य दिनांक 26.07.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(शम्भु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना/आई०टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के संयुक्त सचिव।

पटना दिनांक 3/8/12

ज्ञापांक- 336/

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि०, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/नाबार्ड XIV-07/08

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:- औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में 101.67 लाख (एक करोड़ एक लाख सरसठ हजार) एवं नाबार्ड ऋण के रूप में 527.73 लाख (पाँच करोड़ सताईस लाख तिहतर हजार) कुल 629.40 (छः करोड़ उनतीस लाख चालीस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति।

आदेश:- स्वीकृत।

बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 1421.00 लाख (चौदह करोड़ इक्कीस लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-902 दिनांक 01.03.2012 द्वारा प्रदान की गई है। इस योजना का वित्त पोषण राज्य सरकार एवं नाबार्ड ऋण के रूप में किया जाना है। नाबार्ड के स्वीकृत्यादेश संख्या-NB.SPD/RIDF-XVII(BIHAR)/118 PSC/2010-11 दिनांक 01 सितम्बर, 2011 द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत इस योजना के लिए कुल 1319.33 (तेरह करोड़ उन्नीस लाख तैंतीस हजार) लाख रुपये ऋण की स्वीकृति प्रदान की गई है, जिसमें से 527.73 करोड़ रुपये वित्तीय वर्ष 2011-12 के लिए दिया जाना है। राज्य सरकार द्वारा राज्यांश के रूप में 101.67 लाख रुपये दिया जाना है। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2011-12 हेतु कुल 629.40 लाख रुपये बिहार राज्य जल विद्युत निगम लि० को राज्य योजना से ऋण के रूप में स्वीकृति दी जानी है।

2. उक्त आलोक में राज्य सरकार द्वारा वित्तीय वर्ष 2011-12 में राज्यांश के रूप में 101.67 (एक करोड़ एक लाख सड़सठ हजार) लाख रुपये एवं नाबार्ड ऋण के रूप में 527.73 लाख (पाँच करोड़ सताईस लाख तिहतर हजार) कुल 629.40 (छः करोड़ उनतीस लाख चालीस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को ऋण के रूप में स्वीकृति प्रदान की जाती है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नही करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में $1/4$ (चौथाई) प्रतिशत की छूट होगी।

कृ०पृ०ऊ०

5. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज खेप मुख्य शीर्ष 00-लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उपा शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नाबाई)- मांग सं0-10- विषय कोड-पी0 6801002010105 विषय शीर्ष 5501 ऋण एवं ऋण के अन्तर्गत वित्तीय वर्ष-2011-12 में उपबंधित राशि से निकलनीय होगा।
6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि0, पटना को किया जाएगा।
7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
8. वित्त विभाग के परिपत्र सं0-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
9. वित्त विभाग के डायरी संख्या 1111 (सचिव, व्यय) दिनांक 06.03.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह0/-

(रामु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

आपांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक

आपांक-

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषागार शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि0, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक 26/3/12

आपांक- 1355

प्रतिलिपि:- मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग, पटना/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के संबंधित सहायक, ऊर्जा विभाग, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

26/3/12

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/नाबार्ड XIV-07/08

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:- औरंगाबाद जिलान्तर्गत सिपहा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में 94.40 लाख (चौरानवें लाख चालीस हजार) एवं नाबार्ड ऋण के रूप में 483.04 लाख (चार करोड़ तेरासी लाख चार हजार) कुल 577.44 (पाँच करोड़ सतहतर लाख चौवालिस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति।

आदेश:- स्वीकृत।

बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 1302 लाख (तेरह करोड़ दो लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-897 दिनांक 01.03.2012 द्वारा प्रदान की गई है। इस योजना का वित्त पोषण राज्य सरकार एवं नाबार्ड ऋण के रूप में किया जाना है। नाबार्ड के स्वीकृत्यादेश संख्या-NB.SPD/RIDF-XVII(BIHAR)/118 PSC/2010-11 दिनांक 01 सितम्बर, 2011 द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत इस योजना के लिए कुल 1207.60 (बारह करोड़ सात लाख साठ हजार) लाख रुपये ऋण की स्वीकृति प्रदान की गई है, जिसमें से 483.04 करोड़ रुपये वित्तीय वर्ष 2011-12 के लिए दिया जाना है। राज्य सरकार द्वारा राज्यांश के रूप में 94.40 लाख रुपये दिया जाना है। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2011-12 हेतु कुल 577.44 लाख रुपये बिहार राज्य जल विद्युत निगम लि० को राज्य योजना से ऋण के रूप में स्वीकृति दी जानी है।

2. उक्त आलोक में राज्य सरकार द्वारा वित्तीय वर्ष 2011-12 के लिए राज्यांश के रूप में 94.40 लाख (चौरानवें लाख चालीस हजार) एवं नाबार्ड ऋण के रूप में 483.04 लाख (चार करोड़ तेरासी लाख चार हजार) कुल 577.44 (पाँच करोड़ सतहतर लाख चौवालिस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति प्रदान की जाती है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।

कृ०प०कृ०

5. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए ऊर्जा विभाग मुख्य शीर्ष-00-लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नाबाई)- मांग सं०-10- विपत्र कोड-पी० 6801022010105 विषय शीर्ष 5501 ऋण एवं अधिम के अन्तर्गत वित्तीय वर्ष-2011-12 में उपबंधित राशि से विकलनीय होगा।

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2008 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।

8. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें अधिकार पत्र की आवश्यकता नहीं है।

9. वित्त विभाग के डायरी संख्या 1111 (सचिव, व्यय) दिनांक 06.03.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(शम्भु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि०, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के संयुक्त सचिव।

पटना दिनांक 26/3/12

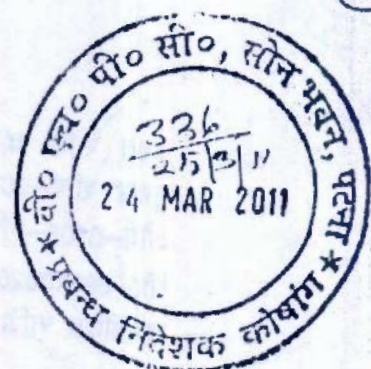
ज्ञापांक- 1354

प्रतिलिपि:- मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग, पटना/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के संबंधित सहायक, ऊर्जा विभाग, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

26/3/12

बिहार सरकार
ऊर्जा विभाग



पत्रांक-प्र2/ज0 वि0 नि0-01/10

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:-बिहार राज्य जल विद्युत निगम लि0, पटना को कोशी प्रक्षेत्र में निर्मली (4X2 मे0 वा0) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2010-11 में रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार रू0) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि0, पटना द्वारा कोशी प्रक्षेत्र में निर्मली (4X2 मे0 वा0) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 6561.89 लाख (षेसठ करोड़ एकसठ लाख नवासी हजार) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं0-14/11 दिनांक 23/3/11 द्वारा प्रदान की गई है एवं इसके विरुद्ध गार्ड द्वारा आर0आई0डी0एफ0 XVI के अन्तर्गत स्वीकृत ऋण रू0 6186.87 लाख (इकसठ करोड़ छियासी लाख सतासी हजार) की स्वीकृति प्रदान की गई है। शेष रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार रू0) राज्य सरकार बिहार राज्य जल विद्युत निगम लि0, पटना को उपलब्ध कराया जाना है।

2. उक्त आलोक में राज्य सरकार ने वित्तीय वर्ष 2010-11 में बिहार राज्य जल विद्युत निगम लि0, पटना को राज्यांश के रूप में रुपये रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार) के ऋण की स्वीकृति प्रदान की है।
3. वित्त विभाग के परिपत्र सं0-एफ0 4/3381 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि0, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।
4. ऋण की अन्य शर्तें निम्नवत् होगी :-
 - (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक कतरों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
 - (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
 - (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब शुल्क देय होगा।
 - (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।

58

5. उक्त राशि की निम्न दो बजट मुख्य शीर्ष 6801 बिजली प. योजनाओं के लिए कर्ज रुप मुख्य शीर्ष-00- और शीर्ष-201- पर बिजली उत्पादन-समु. शीर्ष- राज्य योजना- रुप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नावार्ड)- मांग सं0-10- विपत्र कोड- पी0 6801002010-05. वेषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2010-11 में उपबंधित राशि से कि. मनीय होगा।
6. इस राशि की निम्न मुख्य विद्युत अ. नि. ता के राशि (प्रावधिक) ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इशाना भुगत बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निग. लि0, पटना को किया जाएगा।
7. वित्त विभाग के परिशि. सं0-7355 दिनांक 05.10.2007 के अ. त्तर इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभाग के सू. 0000आर0 संख्या 5/F8 दिनांक 22.02.2011 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

629
14/3/11

बि. र. राज्यपाल के आदेश से
ह0/-

(शम्भु नाथ मिश्र)
सरकार के संयुक्त सचिव,
ऊर्जा विभाग।

ज्ञापांक:-

पटना दिनांक

प्रतिलिपि:- कोषागार प्राधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

ज्ञापांक:- 14/6

पटना दिनांक 23/3/11

प्रतिलिपि:- वित्त विभाग, आय व्यय श. खा/वित्त विभाग, डा. कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि0, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।



बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/ज0 वि0 नि0-05/06

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द्र पटेल पथ, पटना।

विषय:- बिहार राज्य जल विद्युत निगम लि०, पटना को डिहरी लघु जल विद्युत परियोजनाओं के स्कैप चैनल के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2010-11 में ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) को ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा लघु जल विद्युत परियोजनाओं के स्कैप चैनल के निर्माण हेतु रुपये 1184.22 लाख (ग्यारह करोड़ चौसी लाख बाइस हजार) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-14/2 दिनांक 23/3/11 द्वारा प्रदान की गई है तथा इसके विरुद्ध नाबार्ड द्वारा आर०आई०डी०एफ० XVI के अन्तर्गत स्वीकृत ऋण ₹0 1120.26 लाख (ग्यारह करोड़ बीस लाख छीस हजार ₹0) की स्वीकृति प्रदान की गई है। शेष ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) राज्य सरकार को राज्यांश के रूप में बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध कराया जाना है।

2. उक्त आलोक में राज्य सरकार ने वित्तीय वर्ष 2010-11 में बिहार राज्य जल विद्युत निगम लि०, पटना को राज्यांश के रूप में रुपये ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) के ऋण की स्वीकृति प्रदान की है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3081 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।



6. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 विजली प योजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन समूह शीर्ष- राज्य योजना- उप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नावार्ड) - मांग सं०-10- विपत्र कोड- पी०/6801002010105 विषय शीर्ष 6501 ऋण एवं अग्रिम व अंतर्गत वित्तीय वर्ष-2010-11 में उपबंधित राशि से विकसनीय होगा।
8. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्राधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका गुप्तान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-73/5 दिनांक 05.10.07 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
9. वित्त विभाग के यू०ओआर० संख्या 104/F8 दिनांक 22.02.2011 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।



बिहार राज्यपाल के आदेश से
ह०/-
(शमशु नाथ मिश्र)
सरकार के संयुक्त सचिव,
ऊर्जा विभाग।
पटना दिनांक

ज्ञापांक-

प्रतिलिपि:- कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

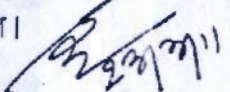
ह०/-

सरकार के संयुक्त सचिव।

ज्ञापांक:- 14/5

पटना दिनांक 23/3/11

प्रतिलिपि:- वित्त विभाग, आय व व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/ प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि०, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।


सरकार के संयुक्त सचिव।

बिहार सरकार,
ऊँची विभाग 1

पत्रांक-प्र2/ज.वि.नि. 8/03-

पटना, दिनांक:

सेवा में,

अनौपचारिक
रूप में
परामर्शित

महालेखाकार, बिहार,
वीरचन्द्र पटेल पथ, पटना

द्वारा: वित्त विभाग



विषय: बिहार राज्य जल विद्युत निगम के नियंत्रणाधीन 17 लघु जल विद्युत परियोजनाओं के लिए आर.आई.डी.एफ. VIII (नाबार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत वित्तीय वर्ष 2006-2007 में 498.00 लाख रुपये (चार करोड़ अठानावे लाख) की निकासी के संबंध में।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम पटना के नियंत्रणाधीन 17 लघु जल विद्युत परियोजनाओं यथा रोजपुरा, डेहरा, सिपाहा, बेलरार, बलिदाद, अरवल, त्रिवेणी, डेलाबाग, नारायणगंज, पहरामा, रोवाशी, जयनगरा, अमेठी, रामपुर, नटवार, श्रीखण्डा एवं राजापुर को पूरा करने हेतु नाबार्ड के ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण के मद में पत्रांक 04 दिनांक 18.01.2004 द्वारा स्वीकृत किया गया है।

2. इन सतरह परियोजनाओं को पूरा करने के लिए राज्यादेश सं० 05 दिनांक 18.01.2004 के द्वारा नाबार्ड आर.आई.डी.एफ. (नाबार्ड) के तहत वित्तीय वर्ष 2003-2004 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-2004 में नाबार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-2004 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई है।

3. पुनः वित्तीय वर्ष 2004-2005 में नाबार्ड द्वारा विमुक्त 301.00 लाख रुपये एवं वर्ष 2003-2004 का शेष 1.00 (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश सं० 128 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष

1677/MD
6/11/2004
महाशय
6.6.04

4. पुनः वित्तीय वर्ष 2005-2006 में नाबार्ड द्वारा 498.00 लाख रुपये विमुक्त किया गया है। इसकी निकासी वित्तीय वर्ष 2005-2006 में नहीं की गई है। अतः नाबार्ड द्वारा विमुक्त 498.00 (चार सौ अठानवे लाख) रुपये की स्वीकृति बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2006-2007 में निम्नांकित शर्तों के आधार पर दी जाती है:-

(क) योजना की प्राक्कलित राशि के 90% (नब्बे प्रतिशत) तक ही ऋण स्वीकृत किया जायेगा।

(ख) इन योजनाओं में 01 अप्रैल, 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जायेगा।

(ग) इस ऋण के लिए 6.50 प्रतिशत वार्षिक दर से ब्याज नाबार्ड को देय होगा।

(घ) इस ऋण का भुगतान 7 (सात) वर्ष में करना है जिसमें दो वर्ष ग्रेस पीरियड सम्मिलित है।

(ङ) इस ऋण के राज्य सरकार के वित्त विभाग को मैनडेट आदि के लिए नोडल विभाग माना जायेगा।

5. नाबार्ड द्वारा दिये गये आर.आई.डी.एफ. VIII योजनान्तर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम पटना विद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. वित्तीय वर्ष 2006-2007 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम पटना को ऋण के प्राक्कलित राशि के विरुद्ध 498.00 लाख रुपये की निकासी बजट शीर्ष-6801-बिजली परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनबिजली उत्पादन-0105-बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड) मांग सं0-10-विपत्र कोड सं0-पी. 6801002010105 के अन्तर्गत किया जायेगा।

7. इस राशि की निकासी मुख्य अभियंता के सचिव (प्रावैधिक) ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम को गतान किया जायेगा ।

वित्त विभाग के परिपत्र १.०- एफ-४-३८८१ दिनांक ०७.०७.१९८९ के अनुरूप पुराने बकाए एवं सूद का २५ प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है ।

अतः अनुरोध है कि ४९८.०० (चार करोड़ अठानवे लाख) रुपये का प्राधिकार पत्र निर्गत करने की कृपा की जाय ।

राज्यपाल के आदेश से,

ह०/-

सरकार के अपर सचिव
ऊर्जा विभाग

पटना, दिनांक-

ज्ञापांक-

प्रतिलिपि-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

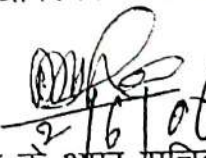
सरकार के अपर सचिव
ऊर्जा विभाग

पटना, दिनांक- ३/६/८६

ज्ञापांक- २०७०

प्रतिलिपि-वित्त विभाग, आय व्यय शाखा/वित्त विभाग डाटा कोषांग/प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम, पटना/निबंधक, ऊर्जा विभाग/मुख्य विद्युत अभियंता के सचिव (प्रा०), ऊर्जा विभाग, पटना/लेखा शाखा (तीन प्रतियों में), ऊर्जा विभाग/योजना बजट के प्रभारी सहायक को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।




सरकार के अपर सचिव
ऊर्जा विभाग

बिहार सरकार,
ऊर्जा विभाग।

पत्रांक -

प्र0-2/ज0वि0नि0-8/03

दिनांक -

सेवा में,

रूप से

महालेखाकार, बिहार,
बीरचन्द पटेल मार्ग, पटना।

द्वारा :

वित्त विभाग,
बिहार, पटना।

विषय:-

बिहार राज्य जल विद्युत निगम लि०, पटना के नियंत्रणाधीन 17 (सत्रह) लघु जल विद्युत परियोजनाओं के लिए आर०आई०डी०एफ०-VIII (नाबार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत वित्तीय वर्ष 2006-07 में 493.00 लाख (चार करोड़ तेरानवे लाख) रुपये की निकासी के संबंध में।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि० के नियंत्रणाधीन 17 (सत्रह) जल विद्युत परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, वलीदाद, अरवल, त्रिवेणी, ढेलाबाग, पहरामा, नासरीगंज, जयनगरा, सिरखिण्डा, अमेठी, रामपुर, नटवार, राजापुर एवं सेवारी को पूरा करने हेतु नाबार्ड के ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण के मद में पत्रांक 04 दिनांक 16.01.2004 द्वारा स्वीकृत किया गया है।

2. इन सत्रह (17) परियोजनाओं को पूरा करने के लिए राज्यादेश सं०- 5 दिनांक 16.01.2004 के द्वारा आर०आई०डी०एफ० (नाबार्ड) के तहत वित्तीय वर्ष 2003-04 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-04 में नाबार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-04 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई है।

3. पुनः वित्तीय वर्ष 2004-05 में नाबार्ड द्वारा विमुक्त 301.00 लाख रुपये एवं वर्ष 2003-04 का शेष 1.00 लाख (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश सं०-126 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वित्तीय वर्ष 2005-06 में नाबार्ड द्वारा 498.00 लाख रुपये विमुक्त किया गया उसे राज्यादेश सं०-2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया।

4. वित्तीय वर्ष 2006-07 में नाबार्ड द्वारा 493.00 लाख रुपये विमुक्त किया गया है। अतः नाबार्ड द्वारा विमुक्त 493.00 लाख (चार करोड़ तेरानवे लाख) रुपये की स्वीकृति बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2006-07 में निम्नांकित शर्तों के आधार पर दी जाती है :-

(क) योजना की प्राक्कलित राशि के 90% (नब्बे प्रतिशत) तक ही ऋण स्वीकृत किया जाएगा।

(ख) इन परियोजनाओं में 01 अप्रैल, 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जाएगा।

(ग) इस ऋण के लिए 6.50% (साढ़े छः प्रतिशत) वार्षिक ब्याज होगा।

(घ) इस ऋण का भुगतान 7 (सात) वर्षों में करना है जिसमें, दो वर्ष प्रारंभिक समितित हैं।

(ङ) इस ऋण के लिये राज्य सरकार व वित्त विभाग को मैनडेट आदि के नोडल विभाग माना जाएगा।

5. नाबार्ड द्वारा दिये गये आर0आई0डी0एफ0-VIII योजनान्तर्गत ऋण की म बिहार राज्य जल विद्युत निगम, पटना पिद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. - वित्तीय वर्ष 2006-07 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम, को ऋण के प्रावधानित राशि के विरुद्ध 493.00 लाख रुपये की निकासी बजट 6801-बिजली परियोजनाओं के लिए कर्जा-राज्य योजना-201-पनाबिजली पावना 01 बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड) मांग संख्या 10 विपन कोड र पी.-6801002010105 के अन्तर्गत विकलनीय होगा।

7. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट माध्यम से बिहार राज्य जल विद्युत निगम, पटना को भुगतान किया जाएगा।

अतः अनुरोध है कि 493.00 लाख (चार करोड़ तेरानबे लाख) रुपये प्राधिकार पत्र निर्गत करने की कृपा की जाय।

बिहार राज्यपाल के आदेश से

ह0/-

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

ज्ञापांक - _____/

प्रतिलिपि कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

दिनांक - _____

ह0/-

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

ज्ञापांक - 1333/

दिनांक - 20/3/07

प्रतिलिपि वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग/प्रबन्ध निदेशक, बिहार राज्य जल विद्युत निगम लि0, पटना/उप सचिव, ऊर्जा विभाग/मुख्य विद्युत अभियन्ता के सचिव (प्रावै0), ऊर्जा विभाग, पटना/लेखा शाखा (तीन प्रतियों में, ऊर्जा विभाग, पटना/योजना बजट शाखा के प्रभारी सहायक, ऊर्जा विभाग को सूचना एवं आवश्यक कार्रवाई हेतु प्रेषित।

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

27/3/07



बिहार सरकार
ऊर्जा विभाग

पत्रांक प्र-2/ज0वि0नि-8/03
सेवा में,

पटना, दिनांक

महालेखाकार, बिहार,
बीरचंद पटेल पथ,
पटना-1.

द्वारा:- वित्त विभाग,
बिहार, पटना

नौपचारिक रूप
परामर्शित।

विषय:- वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम के नियंत्रणाधीन 17 (सतरह)

लघु जल विद्युत परियोजनाओं के लिए आर0आई0डी0एफ0 VIII (नावार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत 123.00 लाख (एक करोड़ तेईस लाख) रुपये की निकासी के संबंध में।

महोदय,

निर्देशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम, पटना के नियंत्रणाधीन 17 (सतरह) लघु जल विद्युत परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, बलिदाद, अखिल, निवेणी, इलाहाबाद, नासरीगंज, पहगागा, सेवारी, जयनगर, अमंडी, रामपुर, नटवार, श्रीखिन्डा एवं राजापुर को पूरा करने हेतु नवार्ड की ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण मद में पत्रांक 04 दिनांक 16.01.04 द्वारा स्वीकृत किया गया है।

2. इन 17 परियोजनाओं को पूरा करने के लिए राज्यादेश संख्या- 05 दिनांक 16.01.2004 द्वारा आर0आई0डी0एफ0 (नवार्ड के तहत) वित्तीय वर्ष 2003-04 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-04 में नवार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-04 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई।

3. पुनः वित्तीय वर्ष 2004-05 में नवार्ड द्वारा विमुक्त 302.00 लाख रुपये एवं वर्ष 2003-04 का शेष 1.00 लाख (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश संख्या 126 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वित्तीय वर्ष 2005-06 में नवार्ड द्वारा विमुक्त 498.00 लाख रुपये राज्यादेश सं0 2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया। वित्तीय वर्ष 2006-07 में नवार्ड द्वारा विमुक्त 493.00 लाख रुपये राज्यादेश सं0 1333 दिनांक 20.03.07 द्वारा बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया।

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4. पुनः वित्तीय वर्ष 2006-07 में नाबार्ड द्वारा दिनांक 29.03.07 को 123.00 लाख (करोड़ तेईस लाख) रुपये विमुक्त किया गया है। इसकी निकासी वित्तीय वर्ष 2006-07 में की गई। अतः नाबार्ड द्वारा विमुक्त 123.00 लाख रुपये की स्वीकृति बिहार राज्य जल निगम को वित्तीय वर्ष 2007-08 में निम्नांकित शर्तों के आधार पर दी जाती है।
(क) योजना की प्राक्कलित राशि के नब्बे प्रतिशत तक ही ऋण स्वीकृत किया जाय।
(ख) इन योजनाओं में 1 अप्रैल 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जायगा।

(ग) इस ऋण के लिए 6.50 प्रतिशत वार्षिक दर से व्याज नाबार्ड को देय होगा।
(घ) इस ऋण का भुगतान सात वर्षों में करना है जिसमें से दो वर्ष ग्रेस पीरियड सम्मिलित है।
(ङ) इस ऋण के लिए राज्य सरकार के वित्त विभाग को मेनडेट आदि के लिए नोडल विभाग माना जायगा।

5. नाबार्ड द्वारा दिये गये आर0आई0डी0एफ0 VIII योजना अंतर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम, पटना विद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. वित्तीय वर्ष 2007-08 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम, पटना को त्रिकोणीय प्रावधानित राशि के विरुद्ध 123.00 लाख रुपये की निकासी दजट शीर्ष 6801- बिजली परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनबिजली-उत्पादन-0105- बिहार राज्य जल विद्युत निगम को ऋण(नाबार्ड)-मांग संख्या-10 विपत्र कोड संख्या-पी0 6801002010105 के अन्तर्गत विकलनीय होगा।

7. इस राशि की निकासी मुख्य विद्युत अभियंता के सचिव(प्रावैधिक) ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम, पटना को भुगतान किया जायगा।

अतः अनुरोध है कि 123.00 लाख (करोड़ तेईस लाख) रुपये का प्राधिकार पत्र निर्गत करने की कृपा की जाय।



बिहार राज्यपाल के आदेश से

ह0/-

सरकार के अपर सचिव

ऊर्जा विभाग, बिहार पटना।

123
11 JAN 2008

बिहार सरकार
ऊर्जा विभाग

पटना, दिनांक-

प्र-2/ज०वि०नि०-8/03

महालेखाकार, बिहार
वीरचंद पटेल पथ,
पटना।

अनुपचारिक
पत्राचार
द्वारा,

द्वारा,

वित्त विभाग,
बिहार, पटना।

विषय:-

वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम पटना के नियंत्रणाधीन 17 (सतरह) लघु जल विद्युत परियोजनाओं के लिए आर०आई०डी०एफ० VIII (नावार्ड) के अन्तर्गत 6015.02 लाख के स्वीकृत ऋण के अन्तर्गत रु० 2,74,00 लाख (दो करोड़ चौहत्तर लाख रुपये मात्र) की निकासी के लिए।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार जल विद्युत निगम लि०, पटना के नियंत्रणाधीन 17(सतरह) लघु जल परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, बलिदाद, अरवल, देलावाग, नासरीगंज, पहरामा, सेवारी, जयनगरा, अमेठी, रामपुर, धाखिण्डा एवं राजापुर को पूरा करने हेतु नवार्ड को ऋण की शर्तों के पर रु० 6015.02 लाख ऋण मद में पत्रांक 04 दिनांक 16.01.04 स्वीकृत किया गया है।

2. इन 17 परियोजनाओं को पूरा करने के लिए राज्यदेश सं० दिनांक 16.01.04 द्वारा आर० आई० डी० एफ० (नवार्ड के तहत) वर्ष 2003-04 में रु० 6015.02 लाख ऋण की स्वीकृति तथा वर्ष 2 में नवार्ड द्वारा विमुक्त रु० 2339.00 लाख के विरुद्ध वित्तीय वर्ष 2 में रु० 2338.00 लाख की निकासी कर उसे बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध करा दी गई।

3. पुनः वित्तीय वर्ष 2004-05 में नवार्ड द्वारा विमुक्त रु० 302.00 लाख एवं वर्ष 2003-04 का शेष रु० 1.00 लाख (एक लाख) रु० 302.00 लाख राज्यदेश सं० 126 दिनांक 31.03.05 द्वारा बिहार र जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वर्ष 2005-06 में नवार्ड द्वारा विमुक्त रु० 498.00 लाख राज्यदेश सं० 2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार र जल विद्युत निगम लि०, पटना को स्वीकृत किया गया। वित्तीय वर्ष 2007-08 में नवार्ड द्वारा विमुक्त रु० 493.00 लाख राज्यदेश संख्या 1333 दिनांक 16.01.08

03.07 द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना को

गया।

4. पुनः वित्तीय वर्ष 2006-07 में नावार्ड द्वारा विमुक्त
लाख राज्यादेश संख्या 3211 दिनांक 16.07.07 द्वारा वित्तीय वर्ष
में बिहार राज्य जल विद्युत निगम लि०, पटना को स्वीकृत किया गया।

5. वित्तीय वर्ष 2007-08 में नावार्ड द्वारा दिनांक 07.08.20
रु० 2,74,00,000 (दो लाख चौदह लाख रुपए मात्र) विमुक्त किया
अतः नावार्ड द्वारा विमुक्त रु० 2,74,00,000 लाख की स्वीकृत बिहार
जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2007-08 में निम्नांकित
के आधार पर दी जाती है।

(क) योजना की प्राक्कलित राशि के नब्बे प्रतिशत तक ही ऋण र
किया जाए।

(ख) इन परियोजनाओं में 1 अप्रैल 2002 के बाद किए गए व्यय
प्रतिपूर्त ऋण के रूप में दिया जाएगा।

(ग) इस ऋण के लिए 6.5 प्रतिशत वार्षिक दर से व्याज नावार्ड
देय होगा।

(घ) इस ऋण का भुगतान सात वर्षों में करना है जिसमें दो वर्ष
पीरियड सम्मिलित है।

(ङ) इस ऋण के लिए राज्य सरकार से वित्त विभाग को भेनडेट उ
के लिए नोडल विभाग माना जाएगा।

6. नावार्ड द्वारा दिए गए आर० आई० डी० एफ० VIII योजना
अन्तर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम लि०, पटना विद्
आपूर्ति से प्राप्त राजस्व से करेगा।

7. वित्तीय वर्ष 2007-08 में नावार्ड के तहत बिहार राज्य जल विद्
निगम लि०, पटना को ऋण के प्राक्कलित राशि के विरुद्ध रु० 274.00 ला
(दो करोड़ चौदह लाख रुपए मात्र) की निकासी वजेट शीर्ष 6801-विजल
परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनविजली उत्पादन-0105-बिहा
राज्य जल विद्युत निगम लि०, पटना को क्र० (नावार्ड)- मांग संख्या-10-विप
कोड संख्या 6801002010105 के अन्तर्गत विकलनीय है।

8. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव(प्रावैधिक),
ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स
चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को
भुगतान किया जाएगा।

9. वित्त विभाग के परिपत्र संख्या 7355 दिनांक 05.10.07 के
अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।

बिहार राज्यपाल के आदेश से,

ह०/-

सरकार के अपर सचिव
ऊर्जा विभाग, बिहार, पटना।

पत्रांक-प्र-2/ज०वि०नि०-08/03
सेवा में,

पटना, दिनांक-

मुख्य विद्युत अभियन्ता के सचिव(प्रावैधिक),
ऊर्जा विभाग, बिहार, पटना।

विषय:- वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम लि०,
पटना को रु० 11,03,000,00/- (ग्यारह करोड़ तीन लाख रुपए)
मात्र के आवंटन की स्वीकृति के संबंध में।

महाशय,

उपर्युक्त विषय के प्रसंग में ऊर्जा विभाग के राज्यादेश संख्या-1283
दिनांक- 14.03.08 के आलोक में वित्तीय वर्ष 2007-08 में बिहार राज्य जल
विद्युत निगम लि०, पटना को नाबार्ड द्वारा स्वीकृत रु० 11,03,000,00/-
(ग्यारह करोड़ तीन लाख रुपए) मात्र का आवंटन स्वीकृत एवं विमुक्त किया
जाता है।

2. यह राशि बजट शीर्ष 6801-विजली परियोजनाओं के लिए कर्ज-राज्य
योजना-201-पनविजली उत्पादन-0105-बिहार राज्य जल विद्युत निगम को
ऋण(नाबार्ड) मांग संख्या-10-विपत्र कोड संख्या पी०-6801002010105 के तहत
वित्तीय वर्ष 2007-08 में उपबंधित राशि के अन्तर्गत विकलनीय होगा।

3. इस राशि की निकासी सचिवालय कोषागार, सिंचाई भवन, पटना से
की जाएगी।

4. यह आवंटन वित्त विभाग के पत्रांक 2561 दिनांक 17.04.1998 के
आलोक में निर्गत किया जाता है तथा निकासी एवं व्ययन पदाधिकारी से
अनुरोध है कि राशि की निकासी के पूर्व सभी प्रक्रियाओं का अनुपालन
सुनिश्चित करने के बाद ही राशि की निकासी करेंगे। यह राशि इस मद में
कुल उपबंधित राशि के अधीन है।

5. आवंटित राशि के निकासी के पूर्व संबंधित विपत्र पर निकासी एवं
व्ययन पदाधिकारी आवंटन आदेश की संख्या एवं तिथि के साथ-साथ संबंधित
इकाई के कोड संख्या का भी उल्लेख करेंगे तथा विपत्र पर चिन्हित राशि
उपबंध के अन्तर्गत होने का प्रमाण पत्र अंकित करेंगे।

6. निकासी एवं व्ययन पदाधिकारी किसी भी परिस्थिति में आवंटित राशि
से अधिक की निकासी नहीं करेंगे। इस राशि का भुगतान बैंक ड्राफ्ट/बैंकर्स
चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया
जाएगा।

विश्वासभाजन,

ह०/-

(राजेश गुप्ता)
सरकार के सचिव
ऊर्जा विभाग

प्रष्क,

आयुक्त एवं सचिव,
उर्जा विभाग, बिहार ।

श्रीवा में,

मुख्य बिद्युत अभियन्ता के सचिव (PTO)
उर्जा विभाग, बिहार, पटना ।

विषय: वित्तीय वर्ष 2005-2006 में बिहार राज्य जल विद्युत
निगम को 345.24 लाख (तीन करोड़ पैंतालिस लाख
चौबीस हजार 800 आबंटन के संबंध में ।

महोदय,

उपर्युक्त विषयक उर्जा विभाग के राज्यादेश सं0-08 दिनांक
16.01.06 के आलोक में वित्तीय वर्ष 2005-06 में बिहार राज्य जल
विद्युत निगम लि0, पटना को राज्यादेश के तम में राज्य योजना से ऋण
के तम में 345.24 लाख (तीन करोड़ पैंतालीस लाख चौबीस हजार 800 रुपये
मात्र का आबंटन स्वीकृत एवं बिभुस्त किया जाता है ।

2. यह राशि बजट शीर्ष- 6801 - बिजली परियोजनाओं के लि:
कर्म-राज्य योजना-800-बिद्युत बोर्डों के लिए अन्य कर्म-0104 -बिहार
राज्य जल विद्युत निगम को ऋण-मार्ग सं0-10 -विपत्र कोड संख्या-पी.
6801008000104 के अंतर्गत वित्तीय वर्ष 2005-2006 में उपबंधित
राशि से विकल्पनीय होगा ।

3. इस राशि की निकासी सचिवालय कोषागार, सिंचाई भवन
पटना से की जायेगी ।

4. यह आबंटन वित्त विभाग के पत्रांक-2561 दिनांक 17.04
1998 के आलोक में निरित किया जाता है तथा निकासी एवं हययन
पदाधिकारी से अनुरोध है कि राशि की निकासी के पूर्व सारी
प्रक्रियाओं का अनुम लन सुनिश्चित करने के बाव ही राशि की निकास
करेंगे । यह राशि इस मध में कुल उपबंधित राशि के अधीन है ।

5. आवंटि । राशि की निकासी के पूर्व संबंधित विपत्र पर
निकासी एवं हययन पदाधिकारी प्रसंगाधीन आवंटन आदेश की संख्या
एवं तिथि के साथ-साथ संबंधित इकाई के कोड संख्या- का भी उल्लेख
करेंगे तथा विपत्र पर चिन्हित राशि उपबंध के अन्तर्गत होने का
प्रमाण-पत्र भी अंकित करेंगे ।

6. निकासी एवं हययन पदाधिकारी किसी भी परिस्थिति
में आवंटित राशि से अधिक की निकासी नहीं करेंगे ।

इस राशि का मुग्तान है। हाफ्ट / थर्कस चैक के माध्यम से बिहार राज्य जल विद्युत निगम लि० को किया जाएगा।

विभागाध्यक्ष

ह०/-

आयुक्त एवं सचिव,
उर्जा विभाग।

ड्राफ्ट- प्र२/ज०वि०नि०-०८/०४-

पटना, दिनांक

प्रतिलिपि- कोषागार पदाधिकारी, सचिवालय कोषागार
सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कारवाई हेतु प्रेषित।

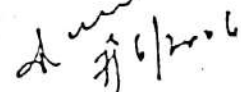
ह०/-

आयुक्त एवं सचिव,
उर्जा विभाग।

ड्राफ्ट- प्र२/ज०वि०नि०-०८/०४- ६२

पटना, दिनांक ७/३/०६

प्रतिलिपि- अध्यक्ष सह-प्रबन्ध निदेशक, बिहार राज्य जल विद्युत निगम लि० पटना को सूचनार्थ एवं नियमानुसार त्वरित कारवाई हेतु प्रेषित।



आयुक्त एवं सचिव,
उर्जा विभाग।

पटसा, दिनांक

महाभैरव, बिहार, पटना ।

विषय: बिहार राज्य जन विप्लव निग्रम मि०, पटना को
निर्माणाधीन 17 इलाक़ों का विप्लव परियोजनाओं को
पूरा करने के लिए राज्य योजना के रा. बाँट के तम
500 लाख : 5 करोड़ : रुपये की मिकरसी को स्वीकृति ।

[illegible]

2. पुनः पिछार राज्य का विप्लव नियम को इन परिणामों को पूरा करने हेतु इस विधायी कार्य में राज्य योजना में 500 करोड़ (पाँच सौ करोड़ रुपये) रूप में खर्च किया जाता है।

3. पुनः प्रमाणित के पत्र पर 10-10-1001 तारीख 7.7.

3. 1950 के अन्तर्गत प्रारम्भिक वर्षों में ही यह 25 प्रतिशत की वृद्धि
 प्रत्यक्ष या अप्रत्यक्ष रूप से प्रत्यक्ष रूप से ही निर्यात प्रमाणों से देखी
 इस नीति को ही पूरे प्रमाणों की जाति है।

५०. स्व की प्रत्यक्ष गति निम्नवत् होगी :-

५. इस की प्रथम प्रतीति निम्नवत् होगी।
[क] इस का पुनर्जन्मान यह है कि प्रकृतान १० वर्षों के बाद
वापस विस्त में होगा। इसी पहली कृति की प्रकाशनी २० निशानों
की तिथि से यह सात मास में प्रारम्भ होगी।
१९०१-०२-०३

1810 160 - - 6

[क]

इस राशि पर 13 प्रतिशत की दर से भार्गव करण देय होगा।

[ख]

समय पर मुआमला करने पर 2.5 प्रतिशत की दर से बिना देय होगा।

[ग]

समय पर मुआमला करने पर ब्याज दर में 1/4 [चौपाई] प्रतिशत छूट होगी।

5

इस राशि की भिन्नाती बजट सीई-4001 दिनांक पारमोपमाओ के लिए राज-राज्य योजना -201-पनयिका उपपाम-0105-विहार राज्य का विद्युत निगम को रूप [मामाई] मार्ग सी-10-विषय कोड सी-पी. 6801002010105 के अन्तर्गत वित्तीय वर्ष 2005-006 में विद्यमान होगा।

6

इस राशि की भिन्नाती मुख्य विद्युत अभियन्ता के सचिव [प्र] उर्जा विभाग के द्वारा सचिवालय कोषागार, तिहार मन, पटना से कर रहे से [सीई] के माध्यम से विहार राज्य का विद्युत निगम को मुआमला किया जाएगा।

उतः अग्रोप है कि 300 मात्र [पॉप] करोड़। समय का प्राधिकार वम भित्त करने की पूरा करें।

विहार राज्य का के आगे से ,
हउ...

सरकार के उपसचिव,
उर्जा विभाग।

आपांक- प्र2/प0वि0नि0-8/03--

प्रतिसिपि- कोषागार पवारिकारी, सचिवालय कोषागार, तिहार मन, पटना को सूचनाएं एवं आवश्यक कारवाई हेतु प्रेषित।

हउ/-

सरकार के उपसचिव,
उर्जा विभाग।

आपांक- प्र2/प0वि0नि0-8/03- 63

पटना, दिनांक 13/3/06

प्रतिसिपि- विस्त विभाग, अर्थ-व्यय शाखा / विस्त विभाग, डाटा कोषागार / प्रयोजन, विहार राज्य का विद्युत निगम, पटना / गिरा, उर्जा विभाग / मुख्य विद्युत अभियन्ता के सचिव [प्र] उर्जा विभाग, विहार, पटना / विद्या शाखा / तीम प्रतियो में [उर्जा] विभाग, पटना / योजना, बजट के प्रभारी सहायक को सूचनाएं एवं आवश्यक कारवाई हेतु प्रेषित।

N.Ram
15/3/06

सरकार के उपसचिव,
उर्जा विभाग।

ARWAL

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

पत्रांक 141 /दिनांक 13.2.14 /

Civil/Arwal/210114

Civil/Monitoring/14/351/04 (Part File-I)

सेवा में,

मेसर्स शाहाबाद इंजीनियरस प्रा०लि०,

पाली रोड, डेहरी-ऑन-सोन,

रोहतास, बिहार- 821307

विषय:- अरवल जल विद्युत परियोजना के अवधि विस्तार के संबंध में।

प्रसंग:- 1. निगम का पत्रांक 4807 दिनांक 22.12.10

2. सोन नहर जल विद्युत परियोजना का पत्रांक 518 दिनांक 28.10.13

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में निदेशानुसार सूचित करना है कि अरवल जल विद्युत परियोजना के बचे हुए अवशेष कार्य को पूरा करने सम्बन्धी निगम के पत्रांक 4807 दिनांक 22.12.10 में उल्लिखित कार्य समाप्ति की अवधि को परियोजना प्रभारी के अनुशंसा के आलोक में कमिशनिंग की तिथि 29/02/12 तक विस्तारित की जाती है।

विश्वासभाजन,

ह०/-

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

ज्ञापांक - _____ /

पटना दिनांक - _____ /

प्रतिलिपि: सहायक अभियंता (असै०) सोन नहर जल विद्युत परियोजना, नासरीगंज को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

ज्ञापांक - _____ /

पटना दिनांक - _____ /

प्रतिलिपि: प्रबन्धक (लेखा) बी० एच० पी० सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। इस संबंध में संचिका सं० Civil/Monitoring/14/351/04 (Part File-I) के नोटशीट पृ०/61 पर मुख्य अभियंता महोदय से प्राप्त स्वीकृति/निदेश की छायाप्रति संलग्न है।

अनु०:- यथोक्त।

ह०/-

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

ज्ञापांक - 141 /पटना दिनांक - 13.2.14 /

प्रतिलिपि: मुख्य अभियंता, बी० एच० पी० सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

(शैलेन्द्र) 13/02/14

अधीक्षण अभियंता (असै०)

Hmp

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कॉर्पोरेशन Bihar State Hydroelectric Power Corporation

(A GOVERNMENT OF BIHAR ENTERPRISE)
ISO 9001 : 2000 Certified Organisation

पत्रांक: 936 /
Civil/Monitoring/14-350/04-III
सेवा में,

पटना, दिनांक: 7.5.13 /

मेसर्स शाहाबाद इंजिनियर्स प्रा०लि०,
पाली रोड,
डिहरी-ऑन-सोन
रोहतास - 821307

विषय: सेवारी जल विद्युत परियोजना के असैनिक कार्य के संशोधित कार्यादेश के संबंध में ।

- प्रसंग: 1. एकरारनामा सं० 06/सिविल/08-09 दिनांक 09.03.09
2. निगम का पत्रांक 2362 दिनांक 14.07.09

महाशय,

सेवारी जल विद्युत परियोजना के असैनिक कार्यों के लिए ए०एच०ई०सी० रुड़की के नक्शों के आधार पर मदवार मात्रा की गणना की गई है ।

इस पृष्ठभूमि में एकरारनामा सं० 06/सिविल/08-09 दिनांक 25.03.09 एवं निगम के पत्रांक 2362 दिनांक 17.07.09 के मद, मदवार मात्रा, दर एवं राशि निम्नवत संशोधित किया जाता है :-

A Power House:- Bill of Quantity for construction of Power House of Sehari S. H. P

A-1 Items comes under agreement

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work Excavation work in excavation of foundation of Power House and appurtenant structure in all kinds of soil, wet and dry including all leads and lift by mechanical means as per drawing, specification and direction of E/I	98	M ³	789.77	80.00	63181.60
3	Reinforcement for RCC work including straightening cutting, bending in position and binding all complete					
g.	TMT Bar 25.00 mm dia	24.5	MT	24.565	46550.00	1143500.75
6	Supply, fabrication, erection fitting & fitting of trash rack gate complete with all required seals and embedment complete job.	11	MT	11.196	101555.99	1137020.86

पंजीकृत कार्यालय : सोन भवन, वीरचन्द्र पटेल मार्ग, पटना - 800 001

Registered Office : Sonu Bhawan, Birchand Patel, Patna-800 001

फोन नं० : 2227692, 2227693, 2227694, 2227695, 2227696, 2227697, 2227698, 2227699, 2227700, 2227701, 2227702, 2227703, 2227704, 2227705, 2227706, 2227707, 2227708, 2227709, 2227710, 2227711, 2227712, 2227713, 2227714, 2227715, 2227716, 2227717, 2227718, 2227719, 2227720, 2227721, 2227722, 2227723, 2227724, 2227725, 2227726, 2227727, 2227728, 2227729, 2227730, 2227731, 2227732, 2227733, 2227734, 2227735, 2227736, 2227737, 2227738, 2227739, 2227740, 2227741, 2227742, 2227743, 2227744, 2227745, 2227746, 2227747, 2227748, 2227749, 2227750, 2227751, 2227752, 2227753, 2227754, 2227755, 2227756, 2227757, 2227758, 2227759, 2227760, 2227761, 2227762, 2227763, 2227764, 2227765, 2227766, 2227767, 2227768, 2227769, 2227770, 2227771, 2227772, 2227773, 2227774, 2227775, 2227776, 2227777, 2227778, 2227779, 2227780, 2227781, 2227782, 2227783, 2227784, 2227785, 2227786, 2227787, 2227788, 2227789, 2227790, 2227791, 2227792, 2227793, 2227794, 2227795, 2227796, 2227797, 2227798, 2227799, 2227800, 2227801, 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2228357, 2228358, 2228359, 2228360, 2228361, 2228362, 2228363, 2228364, 2228365, 2228366, 2228367, 2228368, 2228369, 2228370, 2228371, 2228372, 2228373, 2228374, 2228375, 2228376, 2228377, 2228378, 2228379, 2228380, 2228381, 2228382, 2228383, 2228384, 2228385, 2228386, 2228387, 2228388, 2228389, 2228390, 2228391, 2228392, 2228393, 2228394, 2228395, 2228396, 2228397, 2228398, 2228399, 2228400, 2228401, 2228402, 2228403, 2228404, 2228405, 2228406, 2228407, 2228408, 2228409, 2228410, 2228411, 2228412, 2228413, 2228414, 2228415, 2228416, 2228417, 2228418, 2228419, 2228420, 2228421, 2228422, 2228423, 2228424, 2228425, 2228426, 2228427, 2228428, 2228429, 2228430, 2228431, 2228432, 2228433, 2228434, 2228435, 2228436, 2228437, 2228438, 2228439, 2228440, 2228441, 2228442, 2228443, 2228444, 2228445, 2228446, 2228447, 2228448, 2228449, 2228450, 2228451, 2228452, 2228453, 2228454, 2228455, 2228456, 2228457, 2228458, 2228459, 2228460, 2228461, 2228462, 2228463, 2228464, 2228465, 2228466, 2228467, 2228468, 2228469, 2228470, 2228471, 2228472, 2228473, 2228474, 2228475, 2228476, 2228477, 2228478, 2228479, 2228480, 2228481, 2228482, 2228483, 2228484, 2228485, 2228486, 2228487, 2228488, 2228489, 2228490, 2228491, 2228492, 2228493, 2228494, 2228495, 2228496, 2228497, 2228498, 2228499, 2228500, 2228501, 2228502, 2228503, 2228504, 2228505, 2228506, 2228507, 2228508, 2228509, 2228510, 2228511, 2228512, 2228513, 2228514, 2228515, 2228516, 2228517, 2228518, 2228519, 2228520, 2228521, 2228522, 2228523, 2228524, 2228525, 2228526, 2228527, 2228528, 2228529, 2228530, 2228531, 2228532, 2228533, 2228534, 2228535, 2228536, 2228537, 2228538, 2228539, 2228540, 2228541, 2228542, 2228543, 2228544, 2228545, 2228546, 2228547, 2228548, 2228549, 2228550, 2228551, 2228552, 2228553, 2228554, 2228555, 2228556, 2228557, 2228558, 2228559, 2228560, 2228561, 2228562, 2228563, 2228564, 2228565, 2228566, 2228567, 2228568, 2228569, 2228570, 2228571, 2228572, 2228573, 2228574, 2228575, 2228576, 2228577, 2228578, 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A-2 Items comes under Letter no. 2362 dated 14/07/09

Sl No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work in excavation of foundation trench in ordinary soil (Vide classification of soil item A) and disposal of excavated earth so obtained (50 m. away from the edge of trench with initial lead of 150 m. and initial lift of 1.5 m. all complete job as per specification.	140	M ³	336.288	43.51	14631.89
5	Earth work in filling in foundation or back filling of Masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed, fully computed and finally dressed with earth obtained after cutting of Borrow pits beyond 150 m lead up to 1/2 km with all lift and carriage by truck complete job as per specification of E/I	350	M ³	988.681	189.05	186910.14
7	Providing & laying of PCC or RCC M150 with nominal mix of (1:2:4)..... as per direction of E/I.	142	M ³	178.483	3082.27	550132.79
8	Providing & laying of RCC M250 with nominal mix of (1:1:2)	210	M ³	249.19	4787.71	1193049.45
9	Providing shuttering including strutting, propping etc and its removal after use in foundation/structure as per specification.	210	M ²	1477.352	184.48	272541.89
12	Masonry Work Brick work in designation 100A Brick work with cement mortar (1:4) in foundation all complete job.	75	M ³	220.897	2271.87	501849.26
14	Plaster Work Providing 25 mm thick cement plaster with approved quality of sand of requisite F.M. washed and screened including curing, scaffolding where ever required and its removal, royalty and all taxes etc. complete job.	2590	M ²	4265.386	114.09	486637.88
15	Providing 1.5mm thick cement punning including curing royalty and all taxes etc complete job as per specification and direction of E/I	10	M ²	368.695	22.42	8266.14

1187

16	Extra for providing and fixing steel beading of approved shape and section with screw instead of glazing clip and metal slash putty in steel door, windows, ventilators and composite units.					
	Steel Window	20	M ²	30.12	172.04	5181.84
17	Providing & fixing oxidized M.S. Sliding door bolt with Nuts and Screw etc complete 250 x 16 mm	5	Nos	14	60.18	842.52
21	Providing & fixing 1mm thick M.S Sheet Metal door with frame of 40 x 40x6 m M.S angle iron and 3mm gusset plates at the junction and corner all necessary fitting all complete including applying a coat of approved steel.	6	M ²	17.31	1568.54	27151.42
22	Providing and fixing M.S. Grill of required pattern in frames of windows etc with M.S Flat square or round bars etc complete.					
	Fixed to steel window	150	kg	181.22	58.19	10545.19
	Fixed opening/frame with	750	kg	1332	58.19	77509.08
23	Providing and fixing M.S Fan clamp toe 1 of 16 mm	2	Nos	7	84.78	593.46
25	Providing ridge or hips of width 60cm overall width G.S. sheet fixed with G.I.J or L hook, bolts and nuts 8mm dia G.I limpet and bitumen washer complete 0.80 mm thick	28	Mtr	34	259.39	8819.26
26	Providing and fixing 15cm wide 45cm overall semicircle plain G.S sheet gutter with iron bracket 40 x 3mm size bolt nut and washer etc including making necessary connection with rain water 0.80mm thick	80	Mtr	94.49	230.89	21816.79
27	Providing Flat iron bracket 50x3 mm size with necessary bolt & nut washer etc for fixing G.S. sheet gutter with purling	38	Mtr	94.49	32.53	3073.75
28	Extra for providing & fixing wind ties of 40 x 6 mm flat iron section.	280	Mtr	584.5	64.74	37840.53
30	Providing & fixing on wall face unplasticized PVC rainwater pipe confirming to IS 4985 including joint with seal ring confirming to IS 5382 leaving 10 mm gap for thermal expansion 110mm dia.	60	Mtr	111.615	136.99	15290.12

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1186

31	Providing and fixing on wall face unplasticized PVC molded fittings / accessories for unplasticized PVC rain water pipe confirming to IS 4985 including jointing with seal ring confirming to IS 5382 leaving 10mm gap for thermal expansion.					
a	Bend 110mm	10	Nos	46	113.14	5204.44
b	Shoe 100mm	10	Nos	20	230.28	4605.60
32	Providing fixing unplasticised pipe clip of approved design to unplasticised PVC rain water by means of 50 x 50 x 50 mm hard wood ply, screwed with M.S. screw 110mm	40	Nos	71	72.81	5169.51
33	Wood Work Providing and fixing flush door shutter non decorative type core of block board constructed with frame of 1 st class hardwood and well matched commercial 3 ply veneering with vertical grains or cross band and face veneers of both faces of shutter 35mm thick including anodized aluminium butt hinges with necessary screw.	3	M ²	15.727	672.5	10576.40
34	Providing and fixing aluminium sliding door bolt anodized transparent or dyed to required colour & shade with nuts & screw etc complete	2	Nos	3	119.36	358.08
35	Providing & fixing aluminium sliding tower bolt transparent or dyed to required colour and shade with nuts and screw etc complete 150 x 10mm	2	Nos	4	38.28	153.12
36	Providing & fixing aluminium handle anodized transparent or dyed to required colour and shade with nuts and screw etc complete 125mm	2	Nos	22	43.89	965.58
38	Applying priming coat with ready mix pink or grey primer of approved brand and manufacture on wood work	6.6	M ²	155.305	11.44	1776.68
39	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade two or more coat on new wood work	6.6	M ²	155.305	23.79	3694.70

185

40	Glass partition work providing and fixing anodized aluminium work of door, windows, ventilators and partition with extruded built up standard tubular and other section of approved make confirming to IS 733 and IS 1285, anodized transparent or dyed to required shade according to IS 1868 fixed with rawl & plug and screws or with fixing slips or with expansion hold fasteners including necessary filling of gaps at junctions at top gaps at junctions at top bottom & sides with required PVC/neoprene felt etc aluminium section shall smooth rust straight metered and jointed mechanically required including beading C.P. brass Stainless steel screws all complete as per architectural drawing and direction of E/I (Glazing and paneling to be paid separately)					
a	For fixed portion	100	kg	333.732	265.38	88565.79
41	Providing and fixing 12mm thick prelaminated three layer medium, density particle board Grade I type II confirming to IS 12823 bonded with phenol formaldehyde synthetic resin of approved brand and manufacture in paneling fixed in aluminium door, windows shutters and partition frames with C.P. Brass/stainless screw etc. all complete. Prelaminated particle board with decorative finish on both side.	15	M ²	21.819	720.81	15727.35
42	Providing and fixing glazing in aluminium door, window ventilator shutters and portions etc. with PVC/neoprene gasket etc. complete with glass pans of 5.5m thickness (weight not less than 13.75kg/M ³)	35	M ²	59.842	581.16	34777.77
43	Providing & fixing double action hydraulic floor spring to approved brand and manufacture (Confirming to IS 6315) for aluminium door including cost of cutting floors of required, embedding in floor and cover plate etc. complete.	2	Nos	6	1531.16	9186.96

1184

45	Providing and fixing level adjusting hanger of 6mm dia M.S Rod (upto 1200mm length) fixed to reef by means of M.S Angle ceiling cleat 40x40x5mm size 40mm long and expansion hold fastener 12.5mm dia 40mm long including applying priming coat of zinc chromate yellow primer for steel members complete.	150	Nos	164	64.03	10500.92
48	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade two or more coat on new surface	150	M ²	235.747	23.79	5608.42
49	Flooring Work Providing and laying verified floor tiles indifferent size with water absorption less than 0.080% and containing all colour & shade laid on 20mm thick cement motor (1-4) including grouting the joints with cement and matching pigments all complete. Size of tiles - 60x60mm	80	M ²	106.456	1006.14	107109.63
51	Painting of Boundary Finishing wall with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade New work (three or more coats)	385	M ²	1989.914	39.8	79198.57

B & C Bill of Quantity for construction of Power Channel & Tail Race Channel of Sebari S. H. P

B & C-1 Items comes under agreement						
Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Earth work in filling in all kinds of soil with initial lead & lift as per drawing.	860	M ³	1391.472	48.35	67277.67
4	Extra for additional lead of 1 mtr. Or part there of over initial lift of 1.5 mtr	1800	M ³	6096.494	3.23	19691.67
5	Extra for Wet soil	600	M ³	1405.998	3.23	4541.37
6	Extra for consolidation in all layers	800	M ³	1391.472	20.14	28024.24
9	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	210	Mtr	546	62.89	34337.94
	Canal Red	180	Mtr	236	42.56	10044.1

1183

B&C-2 Items comes under Letter no. 2362 dated 14/07/09						
3	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	150	M ²	1041.765	65.55	68287.69
5	Providing safety ladder in lined section of canal with M.S Rod embedded in cement concrete (1:3:6) in accordance with ISS 1966 including royalty all taxes etc al complete as per	2	Nos	3	4722.45	14167.35
6	Providing rough dressed Random rubble stone massonary in cement motor (1:4) in foundation all complete job.	20	M ³	79.299	1395.93	110695.85
7	Supply of Boulder of size 300 without cost of carriage	40	M ³	115.925	336.3	38985.57
8	Labour charges for stone Boulder (concreted) in launching apron and slop (material within 150m lead all lifts) all complete as per approved design.	40	M ³	115.925	281.39	32620.13

D. Bill of Quantity for construction of S.L.R. Bridge on Tail Race Channel of Seburi S. H. P

D-1 Items comes under agreement						
Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Furnishing & Placing reinforcement concrete in super structure as per drawing and technical specification RCC-M20 for Solid Slab Super structure height 50 mtr	85	M ³	87.995	3186.73	280416.30

D-2 Items comes under Letter no. 2362 dated 14/07/09

3	Providing & laying tar paper Bearing in 5 layers of Bitumen felt type 3 Grade-I confirming to IS 1322 and providing hot sealing compound between each laver	12	M ²	18.6	375.25	6979.65
5	Back filling behind abutment wing wall and return wall complete as per drawing and technical specification.					

1182

	Granular Material	6	M ³	39.689	272.65	10821.20
	Sandy Material	10	M ³	37.792	269.8	10196.28
7	Construction pre-cast RCC Railing M-30 Grade, aggregate size not exceeding 12mm true to line and grade, tolerance of vertical RCC Post..... as per specification.	32	Mtr	37.86	1183.7	44814.88

इसके अतिरिक्त संवेदक द्वारा एकरारनामा एवं निगम के पत्रांक 2362 के अतिरिक्त कुछ अन्य कार्य मदों को भी पूरा किया जाना आवश्यक था जिसके लिए दर निम्नवत स्वीकृत किया जाता है :-

Sl. No	Agency Letter No.	Description of work	Amount Claimed by Agency (Rs.)	Amount Recommended for Approval (Rs.)
01	SEPL/DHR/262/08-09 Dated 09.03.09	RCC Wall Cutting at Sabari SHP	56,362.00	54,384.00
02	SEPL/DHR/195/09-10 Dated 18.11.09	Cleaning of Muck & Mud from Down Stream	1,05,387.00	1,00,672.00
03	SEPL/DHR/196/09-10 Dated 04.12.09	Sheeting of Power House with departmental GCI Sheet.	12,310.00	11,932.00
04	SEPL/AKS/318/11 Dated 24.04.11	Supplying & Laying interlocking pavers Block	1,97,703.00	1,89,880.00
05	SEPL/AKS/319/11 Dated 26.04.11	Cement Pressure Grouting of Power House	89,273.00	82,940.00
06	SEPL/AKS/320/11 Dated 27.04.11	Dewatering work	1,32,769.00	1,27,516.00
07	SEPL/AKS/320/11 Dated 27.04.11	Providing 2 nos. of 150 mm Deep Tub well and Supply & installation of 500Ltr. Capacity water Tank.	4,63,973.00	2,26,228.00
08	Claim Bill-14/11-12 Dated 27.04.11	Supply & Installation of Lightning Conductor on Power House	11,004.00	10,569.00
Total + Service Tax			10,68,781.00	8,04,121.00

एकरारनामा सं० 06/सिविल/2008-09 दिनांक 09.03.09 को इस हद तक संशोधित किया जाता है ।

विश्वासभाजन,

(मणिशर्मा)

मुख्य अभियंता

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

संख्या: _____/
Civil/Monitoring/14-351/04 P-I

दिनांक _____/ Civil/ Arwal/110113

सेवा में,

मुख्य अभियन्ता,
जल संसाधन विभाग, बिहार,
अनिसाबाद, पटना।

विषय:- अरवल जल विद्युत परियोजना से पूर्ण क्षमता में विद्युत उत्पादन के संबंध में।

प्रसंग:- निगम का पत्रांक-2559 दिनांक 05/12/12

महाशय,

उपरोक्त विषय के संबंध में स्मारित करना है कि अरवल शक्तिगृह से पूर्ण क्षमता में विद्युत जनन नहीं होने के कारण निम्न तीन कार्यों को कराना आवश्यक है :-

- (क) अरवल फॉल पर जल स्त्राव के नियंत्रण हेतु फॉल गेट का निर्माण।
- (ख) अरवल-सहार मुख्य मार्ग के डी०एल०आर० ब्रीज के निर्माण हेतु पटना मुख्य नहर के वि० दू० 41.00 मील पर मिट्टी से बनाये गये अस्थायी बांध की मिट्टी को हटाने की व्यवस्था।
- (ग) नहर के आर०डी० 41.0 मील पर हरिजन छात्रावास के पास करीब 20 मीटर लम्बाई में वायें भाग के सुद्वीदीकरण कार्य। यह कार्य सुरक्षा की दृष्टि से भी अत्यधिक महत्वपूर्ण है।

अतः अनुरोध है कि उपरोक्त कार्यों को यथाशीघ्र पूरा कराने की कृपा की जाय। अथवा निगम को अपने स्तर से उक्त कार्य को पूरा कराने पर सहमति प्रदान की जाय।

विश्वासभाजन,

ह०/-

(मणीशरण)

मुख्य अभियन्ता

ज्ञापांक - _____/

पटना दिनांक - _____/

प्रतिलिपि परियोजना प्रबन्धक, /कार्यपालक अभियन्ता (असै०) सोन नहर जल विद्युत परियोजना, को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। कार्यपालक अभियन्ता (असै०) कृपया स्थानीय जल संसाधन विभाग के कार्यालय से सम्पर्क कर इस कार्य को सम्पादित कराने का प्रयास करेंगे।

ह०/-

(मणीशरण)

मुख्य अभियन्ता

ज्ञापांक 185 /

पटना दिनांक 31.1.13 /

प्रतिलिपि प्रबंध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।

CE

SE (Civil)
12/12

EE (C)
05/02/13

मणीशरण
(मणीशरण)
मुख्य अभियन्ता
Jamt

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बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

पत्रांक 2559 /
सिविल/मोनेटरिंग/14-351/04 -पार्ट

दिनांक 5.12.12 /
Letter(Hindi)/4

सेवा में,

मुख्य अभियन्ता,
जल संसाधन विभाग, बिहार,
अनिसाबाद, पटना।

विषय: अरवल जल विद्युत परियोजना से पूर्ण क्षमता में विद्युत उत्पादन के संबंध में।

महाशय,

उपरोक्त विषय के संबंध में सूचित करना है कि बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन द्वारा निर्मित अरवल जल विद्युत परियोजना से क्षमता के अनुरूप विद्युत जनन नहीं हो पा रहा है। इस क्रम में निगम के प्रबन्ध निदेशक के साथ अधोहस्ताक्षरी द्वारा शक्ति गृह से पूर्ण क्षमता में विद्युत जनन नहीं होने के कारणों की समीक्षा की गई तथा निम्नलिखित तीन कार्यों को यथाशीघ्र कराने की आवश्यकता महसूस की गई:-

- i) अरवल फॉल पर जल स्त्राव के नियंत्रण हेतु फॉल गेट का निर्माण।
- ii) अरवल - सहार मुख्य मार्ग के डी० एल० आर० ब्रीज के निर्माण हेतु पटना मुख्य नहर के वि० दू० 41.00 मील पर मिट्टी से बनाये गये अस्थायी बांध की मिट्टी को हटान की व्यवस्था।
- iii) नहर के आर० डी० 41.0 मील पर हरिजन छात्रावास के पास करीब 20 मीटर लम्बाई में वार्ये भाग के सुद्वीदीकरण कार्य। यह कार्य सुरक्षा की दृष्टि से भी अत्यधिक महत्वपूर्ण है।

अतः अनुरोध है कि उपरोक्त कार्यों को यथाशीघ्र पूरा कराने की कृपा की जाय ताकि निगम को विद्युत उत्पादन में सुविधा हो अथवा निगम को अपने स्तर पर उक्त कार्य को कराने पर सहमति देने की कृपा की जाय।

विश्वासभाजन,

ह०/-

(मणीशरण)

मुख्य अभियन्ता (प्रमारी)

OK

(3)

अरवल जल विद्युत परियोजना के असैनिक कार्य हेतु किए गए एकरारनामा में दर्शाए गए मात्रा एवं ए0एच0इ0सी0, रुड़की के आधार पर की गई गणना से प्राप्त मात्रा एवं उसमें आने वाले डेमिएशन की गणना करने हेतु भवदीय के निदेश की छाया प्रति पृ0 62/प0 का कृपया स्मरण किया जा सकता है।

श्री रविन्द्र कुमार सिन्हा, परामर्शी द्वारा मदवार विवरणी तैयार की गयी है, उसका कम्पोनेन्ट बाइज स्थिति पृ0 1/टि0 के अंश 'क' एवं पृ0 20-40/प0 पर कृपया देखा जा सकता है।

जवाहर लाल
(जवाहर लाल)

प्रबंध निदेशक

इस विषय पर दिनांक 14-2-2012 को समीक्षा बैठक में चर्चा हो चुकी है। इस विषय में सैनिकी अधिकारी का कोई अधिकार नहीं होगा।
कृपया निम्नलिखित कार्य सुनिश्चित किया जाए।

- ① इस डेक्लरेशन के आधार पर ~~सैनिकी~~ सम्बंधित एकरारनामा में ~~Right~~ तथा ~~Cost~~ के ह्रास के कारणों सहित स्पष्टता के साथ दिवाया जाए तथा अनुमोदन का प्रस्ताव रखा जाए।
- ② अगर कोई नया Item लागू हुआ है तो उसके दर का निर्धारण सामान्य व्यवस्था के तहत (Schedule में Rate) करके कोषिक भाग को दर्शाया जाए।
- ③ परिशोधन की प्रारम्भिक लागत / पूर्ण लागत / विनियम के कारण / कोई ह्रास के कारण इत्यादि पर प्रकाश / कोषिक दर्शाने हुए सैनिकी को सहज अधिकारी तक प्रस्तुत किया जाए।
- ④ अगर Overall deduction 20% से अधिक है तो इसके अनुमोदन के लिए Board Agenda भी बनाया जाए।

उक्त बातें सोच नहर अवस्थित अन्य परियोजनाओं पर भी लागू होगी।

मु० मा० (वि०)

15/2/12

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

पत्रांक _____/

दिनांक _____/

Letter(Hindi)/4

प्रेषक,

मुख्य अभियन्ता (प्र०),
बी० एच० पी० सी०
पटना।

सेवा में,

मुख्य अभियन्ता,
जल संसाधन विभाग, बिहार,
अनिसाबाद, पटना।

विषय: अरवल जल विद्युत परियोजना से पूर्ण क्षमता में विद्युत उत्पादन के संबंध में।

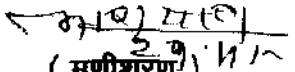
महाशय,

उपरोक्त विषय के संबंध में सूचित करना है कि बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन द्वारा निर्मित अरवल जल विद्युत परियोजना से क्षमता के अनुरूप विद्युत जनन नहीं हो पा रहा है। इस क्रम में निगम के प्रबन्ध निदेशक के साथ अधोहस्ताक्षरी द्वारा शक्ति गृह से पूर्ण क्षमता में विद्युत जनन नहीं होने के कारणों की समीक्षा की गई तथा निम्नलिखित तीन कार्यों को यथाशीघ्र कराने की आवश्यकता महसूस की गई:-

- अरवल फॉल पर जल स्त्राव के नियंत्रण हेतु फॉल गेट का निर्माण।
- अरवल - सहार मुख्य मार्ग के डी० एल० आर० ब्रीज के निर्माण हेतु पटना मुख्य नहर के वि० दू० 41.00 मील पर मिट्टी से बनाये गये अस्थायी बांध की मिट्टी को हटाने की व्यवस्था।
- नहर के आर० डी० 41.0 मील पर हरिजन छात्रावास के पास करीब 20 मीटर लम्बाई में बायें भाग के सुद्वीदीकरण कार्य। यह कार्य सुरक्षा की दृष्टि से भी अत्यधिक महत्वपूर्ण है।

अतः अनुरोध है कि उपरोक्त कार्यों को यथाशीघ्र पूरा कराने की कृपा की जाय ताकि निगम को विद्युत उत्पादन में सुविधा हो अथवा निगम को अपने स्तर पर उक्त कार्य को कराने पर सहमति देने की कृपा की जाय।

विश्वाशभाजन,


(मणीशरण)

मुख्य अभियन्ता (प्रभारी)

434

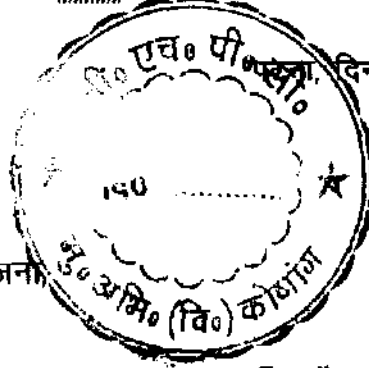
बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन, द्वितीय मंजिल, बीरचन्द पटेल मार्ग पटना ।

पत्रांक _____/

Chand/M.JJ/77

सेवा में,

श्री पी० एन० सिंह,
परियोजना प्रबन्धक,
सोन नहर जल विद्युत परियोजना,
डिहरी-ऑन-सोन (रोहतास)।



Fax No: 0657-2464882

E-mail: pradeepnain Singh @sify.com

विषय: अरवल जल विद्युत परियोजना के कार्यों की प्रगति के संबंध में।

महाशय,

उपर्युक्त विषयक आप अपने पत्रांक 149 दिनांक 04.08.2009 का कृपया संदर्भ लें जिनके माध्यम से मे० मदर इंडिया कन्सट्रक्शन प्रा० लि०, को भेजे गये पत्र की प्रति अधोहस्ताक्षरी को उपलब्ध कराई गयी।

इस पत्र से पता चलता है कि अरवल परियोजना की प्रगति लक्ष्य से 77 दिन पीछे चल रहा है। मैं समझता हूँ कि परियोजना स्तर पर निगम के अभियन्ता द्वारा आपको इसकी जानकारी उपलब्ध करनी चाहिए थी कि किन कारणों से 77 दिन पीछे कार्य चल रहा था। अगर स्थल पर अभियन्ता कार्य करते तो 77 दिन के बाद ऐसी स्थिति की जानकारी नहीं मिल पाती।

वर्णित तथ्यों के आलोक में यह अपेक्षित है कि इस संबंध में आप अपने स्तर से इस संबंध में अग्रेतर कार्रवाई का प्रस्ताव अधोहस्ताक्षरी को उपलब्ध करायें।

कृपया इसे अतिआवश्यक समझा जाय।

विश्वासभाजन,

ह०/-

(एल० पी० सिन्हा)

प्रबन्ध निदेशक

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि- श्री कमलेश कुमार, कनीय अभियन्ता (असै०)/श्री एस० एन० चौधरी, कार्यपालक अभियन्ता (असै०)/अरवल जल विद्युत परियोजना, डिहरी (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-

(एल० पी० सिन्हा)

प्रबन्ध निदेशक

SE(4)
17/8/09


AE(2)
17/8/09

(2)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री शैलेन्द्र, अधीक्षण अभियन्ता (असै०), बिहार स्टेट हाइड्रोइलेक्ट्रिक
पावर कारपोरेशन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। उनसे अनुरोध है
कि मुख्य अभियन्ता (वि०) को भी इससे अवगत कराने की कृपा करें।

श्री पी० एन० सिंह, परियोजना प्रबन्धक से प्राप्त पत्र अरवल परियोजना का मूल
रूप से संलग्न किया जा रहा है।
अनु०: यथोक्त।

ह०/-
(एल० पी० सिन्हा)
प्रबन्ध निदेशक
ज्ञापांक 2719 / पटना, दिनांक 11.8.09 /
प्रतिलिपि- मुख्य अभियन्ता (वि०), बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन,
पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।


(एल० पी० सिन्हा)
प्रबन्ध निदेशक
3/1

623

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कॉरपोरेशन

Bihar State Hydroelectric Power Corporation

(A GOVERNMENT OF BIHAR ENTERPRISE)

ISO 9001:2000 Certified Organisation

No. _____/

Construction_Progress.doc
Patna, the _____/

To,

M/s Mother India Pvt. Ltd.,
Bikram,
PATNA - 800 001

Confidential

Sub: Arwal SHP (1 x 500 kW) - Construction Progress

Ref: Visit of Project Site by AHEC & BHPC teams on 19.05.2009

Dear Sir,

During visit of the Arwal project site by AHEC & BHPC teams on 19.05.2009, it was observed that the progress of construction was not satisfactory. The quality of works is also not to be the upto the mark. During above inspection, only three persons were found working on reinforcement work of a column above machine hall floor. The commissioning date of Arwal SHP has been fixed for Sept 30, 2009. The following jobs are still pending.

1. Civil Works

- i. Super structure and roofing.
- ii. Power channel excavation and lining.
- iii. Tail race excavation and lining.
- iv. Bridge and culvert etc.
- v. Approach road and boundary wall.
- vi. Flooring & finishing works.
- vii. Painting works.
- viii. Trash Racks

2. Electrical Works

- i. Erection of Gantry crane
- ii. Main equipment foundations, erection and grouting etc.
- iii. Station auxiliaries installation.
- iv. Testing and commissioning.

(2)

From the above it will be evident that construction activities should have been executed simultaneously on several fronts to achieve the target dates. You were also advised to start construction activities in two shifts, but no arrangement were found at site. It indicates that you are not making all out efforts to commission the project at the earliest which has already been delayed by about two years.

From the progress of above works, it appears that it may not be possible for you to achieve the target dates.

Following Targets have been fixed up to evaluate your performance:-

Sl. No.	Period	Work Assigned
1.	1 st Week (May 25- 31.2009)	i. Additional two lifts of concreting for all columns. ii. Surface preparation for construction of service bay.
2.	2 nd Week (June 1 - 7.2009)	i. Additional two lifts (Total four lifts wherever required to reach the bottom of gantry girder) for all four columns. ii. Construction of raft for service bay. iii. Surface preparation for construction of D.G. room. iv. Excavation for construction of minor.

The above jobs may be completed accordingly. If the above works are not completed in time, it will be presumed that you are not in a position to complete these jobs and appropriate necessary action shall be taken in this matter.

Yours faithfully,

Sd/-

(L.P. Sinha)

Managing Director

Memo _____/

Patna, the _____/

Copy forwarded to Shri Mukesh Singhal, Senior Scientist, Indian Institute of Technology, Roorkee, Roorkee - 247 667 (Uttaranchal) for information and necessary action.

Fax: 0133-2273517

Email - mksalfah@iitr.ernet.in

Sd/-

(L.P. Sinha)

Managing Director

Memo _____/

Patna, the _____/

Copy forwarded to Shri S.N. Chaudhary, Executive Engineer(C), Sone Western Canal H E Project, Dehri-on-Sone, Dist. Rohtas for information and necessary action.

Fax : 06184-254526/252536

Sd/-

(L.P. Sinha)

Managing Director

(3)

Memo _____/

Patna, the _____/

Copy forwarded to Shri P.N. Singh, Project Manager, Road No.17, Haldar Mahto Colony, Jawahar Nagar, Mango, Jamshedpur(Jharkhand) for information and necessary action.

Email:pradeepsingh@sify.com

Fax: 0657-2464882.

Sd/-

(L.P. Sinha)

Managing Director

Memo 1854/

Patna, the 30/05/09 /

Copy forwarded to Chief Engineer (E), Bihar State Hydroelectric Power Corporation, Patna for information and necessary action. You may like to request Sri Shailendra, Superintending Engineer (C) to put up it in concerned file for further action.

[Handwritten signature]
30.5.09

(L.P. Sinha)

Managing Director

Shri Singhjee
Anwar Lal
8/06/09

SE (E)
More information
pl put up
stent
5/6

AP (C)
08/06/09



File No - Civil / Monitoring / 14-35/08
Annual SHD (1x5606w) Monitoring

377

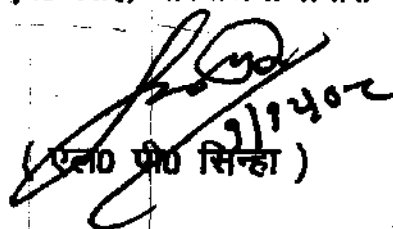
(74)

गैर सरकारी प्रेषण संख्या 1431 दिनांक 12.11.2008 (पत्राचार पृ० 346) के संदर्भ में टिप्पण 68 से पूर्व पृष्ठ की टिप्पणी के आलोक में निगम द्वारा निम्नांकित दो पत्र निर्गत किये जा चुके हैं:-

1. निगम का पत्र संख्या 4246 दिनांक 28.11.2008 (पत्राचार पृ० 370)
2. निगम का पत्र संख्या 4251 दिनांक 28.11.2008 (पत्राचार पृ० 375)

निगम द्वारा अब तक जो भी कार्रवाई की गई है उसके संबंध में श्री शिवेन्द्र नारायण सिंह, विद्वान अधिवक्ता के अभिमत के साथ संचिका कृपया शीघ्र उपस्थापित किया जाय । आवश्यक समझे जाने पर श्री शिवेन्द्र नारायण सिंह, विद्वान अधिवक्ता के साथ समन्वय करने हेतु श्री धुरखेली सिंह, परामर्शी की सेवा ली जा सकती है ।

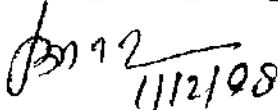
इस टिप्पण पृष्ठ की छाया प्रति श्री शैलेन्द्र, अधीक्षण अभियंता (असै) के साथ-साथ श्री धुरखेली सिंह, परामर्शी एवं श्री पी० एन० सिंह, परियोजना प्रभारी को भी पृष्ठांकित किया जाय ।


(एन० पी० सिन्हा)

श्री गजानन
मुख्य अभियंता (वि)
श्री के.सी.ठाकुर, प्र.नि. के सचिव

श्री शैलेन्द्र, अधीक्षण अभियंता (असै) / श्री धुरखेली सिंह, परामर्शी / श्री पी० एन० सिंह, परियोजना प्रभारी को उपरोक्त निदेश के अनुपालन में सूचनार्थ प्रेषित ।

E-mail: pradeepnsingh@sify.com


11/12/08

370

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

संख्या 42461
अस/वि/14-201/04

दिनांक 28/11/2008 Letter(H)-79

सेवा में,

मे० मदर इण्डिया कंस्ट्रक्शन प्रा०लि०,

विक्रम, पटना

द्वारा श्री चन्द्रसेन सिंह,

रोड नं० 3, संजय गंधी नगर,

कंकड़बाग, पटना - 30.

अति महत्वपूर्ण

विषय : अरबल जल विद्युत परियोजना के निर्माण के संबंध में ।

प्रसंग : 1. एकराखनामा सं० 02/सिविल/04-05 दिनांक 20.8.04

2. इस निगम का पत्रांक 1419 दिनांक 10.4.07

3. इस निगम का पत्रांक 1728 दिनांक 11.5.07

4. इस निगम का पत्रांक 2824 दिनांक 14.8.07

5. इस निगम का पत्रांक 3921 दिनांक 30.11.07

6. इस निगम का पत्रांक 1661 दिनांक 06.5.08

7. इस निगम का पत्रांक 1952 दिनांक 28.5.08

8. इस निगम का पत्रांक 3347 दिनांक 10.9.08

9. इस निगम का पत्रांक 3528 दिनांक 25.9.08

महाशय,

उपरोक्त विषयक प्रासंगिक पत्रों का कृपया संदर्भ किया जाय, जिसके द्वारा आपको कार्य की धीमी प्रगति से अवगत कराते हुए कार्य की प्रगति बढ़ाये जाने के लिए अनुरोध किया जाता रहा है ।

आपको प्रासंगिक पत्र सं० 1952 दिनांक 28.5.08 द्वारा इस तथ्य से अवगत कराया गया था कि इस परियोजना के लिए ऋण नाबार्ड से प्राप्त किया गया है । नाबार्ड द्वारा आईडी.एफ-VIII के तहत कर्मान्वित परियोजनाओं को पूरा करने की अवधि 30.9.08 तक है । इस अवधि तक परियोजना के निर्माण पर किए गए व्यय की ही प्रतिपूर्ति नाबार्ड द्वारा 31.12.08 तक की जाएगी

कार्य सम्पादन की गति बढ़ाने के उद्देश्य से आपको निर्माण सामग्रियों के क्रय, मजदूरों के भुगतान आदि खर्चों में दिनांक 07.3.08 से 28.7.08 तक रु० 23,71,483.00 अग्रिम भुगतान किया गया, जिसे से रु० 09,19,853.00 तथा दिसम्बर, 2007 में दिए गए

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०

(346)

चर्ख्या टिप्पणी

(यह न तो कार्यालय से बाहर जाएगा और न मुद्रित होगा)

गै.स.प्रे.सं०: 1431 /

पटना, दिनांक: 12.11.08 /

मुख्य अभियंता (वि) - श्री शैलेन्द्र, अधी० अभि० (असै)

*Genl. Secy
12/11/08*

विषय: अरवल (1 x 500 कि.वा.) जल विद्युत गृह के कार्य प्रगति के संबंध में ।

उपरोक्त विषयक 01 जनवरी, 2007 से 30.10.2008 तक हुई कार्य प्रगति की समीक्षा हेतु संबंधित संचिका के साथ आकर आज अपराह्न 3:00 बजे कृपया विमर्श करें । साथ में संबंधित पदाधिकारियों को भी लावें ।

[Signature]
14/11/08
(एन० पी० सिन्हा)

अ0स0 पत्र सं0: 2326 /

पटना, दिनांक: 01.07.06 /

गोपनीय

प्रि. सी. सिंह,

विषय: अरवल जल विद्युत परियोजना को पूरा करने के संबंध में ।

प्रसंग: एकरारनामा संख्या-02/सिविल/2004-05 दिनांक 28.08.2004

माननीय मुख्यमंत्री जी द्वारा 29.06.2006 को नाबार्ड सम्प्लोषित परियोजनाओं की प्रगति की समीक्षा की गई ।

इस परिप्रेक्ष्य में ही स्मरण कराना है कि विगत कुछ दिन पूर्व ही अरवल जल विद्युत परियोजना के असैनिक कार्य की धीमी प्रगति के संबंध में आपसे वार्ता हुई थी । आपने आश्वासन दिया था कि 29 जून, 2006 तक निश्चित रूप से बैंक गारंटी समर्पित कर मोबिलाइजेशन अग्रिम प्राप्त करते हुए कार्य में यथोचित प्रगति लाने का प्रयास करेंगे । अभी तक आपसे बैंक गारंटी प्राप्त नहीं हुआ है । दूसरी ओर इलेक्ट्रिकल मेकनिकल इक्यूपमेंट्स के आपूर्तिकर्ता द्वारा ड्राफ्ट लाइन एवं कोन दोनों की आपूर्ति लेकर भुगतान हेतु दवाब डाला जा रहा है ।

विषय की गम्भीरता को देखते हुए अनुरोध है कि अविलम्ब आप अपेक्षित कार्रवाई प्रारंभ करें जिससे निगम एवं मेरे व्यक्तिगत सम्मान में कोई ठेस न आ सके । इस क्रम में यदि इस ठीका को छोड़ने का भी निर्णय आपके द्वारा लिया जाता है तो उसे मेरे द्वारा अन्यथा नहीं समझा जायेगा ।

कृपया इसे अति आवश्यक समझकर भविष्यगत कार्यक्रम से मुझे अवगत कराने की कृपा करें ।

शुभा कामनाओं के साथ-

भवनिष्ठ

(प्रि. सी. सिंह)

श्री चन्द्रसेन सिंह,
मे0 मदर इंडिया कंस्ट्रक्शन प्रा0 लि0,
विक्रम,
जिला- पटना ।

10/12

BELSAR

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन Bihar State Hydroelectric Power Corporation

(A GOVERNMENT OF BIHAR ENTERPRISE)
ISO 9001 : 2000 Certified Organisation

No. 48021
Civil/Monitoring/14-351/04 Part-I

Patna, dated 22-12-10

To,

M/s Shahabad Engineers Pvt., Ltd.
Pali Road,
Dehri-on-Sone,
Distt - Rohtas

Sub: Work order for the execution of Balance civil work of Belsar SHP (2x500 KW).

Ref:- i. Agreement no. 01/Elec/06-07 dated 03/04/2006
ii. Your letter dated 28/11/2010

Sir,

We have an agreement with M/s H.P.P. Energy (India) Pvt. Ltd. for supply of main generating equipment & auxiliaries for the Belsar H.E. Project which was to be commissioned latest by 24th November, 2007.

M/s H.P.P. Energy (India) Pvt. Ltd. had assigned you erection, testing & commissioning of main generating equipment & auxiliaries supplied by them.

We have now been informed by you that there has been delay in erection of equipment because the civil work has not been completed as per schedule. It has also been pointed out by you that the jobs as per enclosed list in respect to the civil work have yet not been completed. On verification it has been found to be true.

Apart from being entrusted with work of erection, testing & commissioning of main generating equipment of this project by their manufacturer, you have also successfully executed civil work of several projects of BHPC.

In view of your credentials therefore and also your consent to take up this work, we are pleased to nominate you for the construction of balance civil work of Belsar S.H.P.(2x500KW) in Arwal District at total cost of Rs.12,98,932.00 (Rupees twelve lac ninety eight thousand nine hundred thirty two) only as per terms & conditions mentioned below :-

1. Scope of work

The scope of work is limited to details given below :-

A. Power House: - Abstract of cost for construction of power house of Belsar (Balance work)

Sl. No	Item of work	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
1	Grouting of Power House per bag of cement all complete as per specification and direction (W.R.D. 6.3.25)	100	no.	406.80	40,680.00

पंजीकृत कार्यालय : सोन भवन, वीरचन्द पटेल मार्ग, पटना-800 001

Registered Office : Son Bhawan, Birchand Patel Marg, Patna 800 001

ई. पी. ए. बी. एक्स दूरभाष सं. / E.P.A.B.X. Phone No. : 0612-2224002/2228267

फैक्स सं. / Fax No. : 0612-2227692 E-mail : bshpc@bih.nic.in. Web site : www.bshpc.ltd.com



2.	Fabrication, supply, erection, fixing of trash rack, gates, complete with all required seals and embedded parts complete job as per drawing, specification and direction of E/I. [Agr.8(a)].	10	MT	45000	4,50,000.00	✓
3.	Providing and fixing steel doors and windows fully glazed etc as per I.S. specification and direction of E/I. (Agr. 9)	60	M ³	1500	90,000.00	✓
4	Providing and laying all finishing work providing colouring etc. (Agr.)	L.S			20,000.00	✓
5	Providing & painting steel structure, windows doors etc. (Agr.)	L.S			10,000.00	✓
6	Providing and laying RCCM-150 (1:2:4) in Approach to PHC & its PCC ramp from main Gate at all elevation with hard quartzite or trap stone chips including the cost shuttering curing etc al complete job excluding the cost of reinforcement and its bending cutting & placing with position and direction of E/I. (Agr. 36)	50	M ³	4500	2,25,000.00	✓
7	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap bading shall be paid in basic item). with glass panes of 4.0 mm thickness (weight not less than 10.0 kg/sqm). with glass panes of 4.0 mm thickness (weight not less than 10.0 kg/sqm) (B.C.D.24:3:1)	10 m ²	M ²	573.60	5,736.00	✓
8	Providing and fixing electrification works (M/C Hall, C/R, D.G. Room etc)	L.S			30,000.00	
9	Providing and fixing insulating board ceiling of approved quality with necessary nails etc complete (frame work to be paid separately) of white face insulating board (B.C.D.12:55:2:1)	200M ²	M ²	401	80,200.00	✓
10	False ceiling work providing & fixing anodize aluminium work consisting of Tee/Angle section of approved make confirming to IS 733 in frames of false ceiling including aluminium ample cleats with necessary C.P. Brass/ stainless steel shunk screws, aluminium perimeter angle fixed to wall with plugs	15 Kg	Kg	348.45	5,226.75	✓

	@ 450mm center to centre and fixing the frame to level adjusting hangers with necessary cadmium plated machine screw all complete/level adjusting hangers, ceiling cleat and expansion hold fasteners to be paid separately (B.C.D.24:5:2)				
✓ 11	Providing and fixing water supply and sanitary installation work	L.S			20,000.00
✓ 12	Lighting arrangement around Power house (New)	L.S			30,000.00
✓ 13	Cooling water supply system including water storage tank. (New)	L.S			20,000.00
✓ 14	Providing and fixing M.S. grills of requirement pattern in frames of windows etc. with M.s. flats, square or round bars etc. all complete As per B.C.D 9.82.1.Fixed to steel windows by welding 9.82.2. fixed to gate openings/wooden frames with rawl plugs screws etc.	100kg	Kg	59.70	5,970.00
		250kg	kg	60.40	15,100.00
X 15	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacture's specifications including appropriate priming coat preparation of surface, etc. complete. (B.C.D. 13-82-2B)	50 M ²	M ²	74.50	3,725.00
X 16	Supply and laying interlocking concrete pavers from Main gate to Power House	100 M ²	L.S	L.S	5,000.00
✓ 17	Providing and fixing expanded metal 20x60 mm strands 3.25 wide and 1.8 mm thick fencing around switchyard. (B.C.D.9-83)	500 M ²	M ²	335.70	1,67,850.00
✓ 18	Drilling 6mm Dia. in M.S. angle iron for fixing of staples etc. as per building specification and direction of E/I. (B.C.D. 10-33-06)	300	Each	2.65	795.00
✓ 19	Labour for cutting of M.S angle iron post to required length, one and splitted as fish tailed in a length of 150mm complete as per building specification and direction of E/I. (B.C.D. 10-33-07)	200	Each	8.25	1,650.00
✓ 20	Supplying Steel Angles	0.1MT	MT	42500	4,250.00
✓ 21	Supply fabrication, fitting and fixing in position pressure release pipe and M.S grill railing, steel ladders and steel hoisting arrangement chequered plates, etc wherever necessary as per drawing, specification and direction of E/I. (Agr. 7)	1.5 MT	MT	45000	67,750.00
Total					12,98,932.75

2. Value of Work

The cost of the work is Rs.12,98,932.00 (Rupees twelve lac ninety eight thousand nine hundred thirty two) only.

3. Terms of payment

- (a) Rs.10.00 lac (Rupees ten lac) as Mobilization advance already paid to expedite the above work.
- (b) 100% payment less advance against final bill on completion of work.

4. Sale tax/Royalty/Cess

Sales Tax applicable on works contract will be deducted from R/A bills. Royalty and cess will be paid by the contractor.

5. Income Tax

Income Tax will be deducted as per provision in the statutory rules for deduction on works contract.

6. Paying Authority

- Assistant Manager (A/cs), Eastern Sone Link
Canal H.E. Project Barun.

7. Time of completion

- 1 (one) month from the date of order.

8. Engineer-in-charge

- Sri P. N. Singh, Project Manager (Const.)

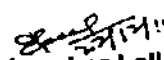
9. Liquidated damage.

In case proportionate progress is not maintained by the contractor according to the programme of construction approved by the engineer-in-charge penalty @ ½% (half percent) on the contract value of work for per fortnight of delay will be levied up to a maximum of 5% of the value of the work.

10. Supervision.

Project Manager (Construction) or his representatives will supervise the work at site.

Yours faithfully,


(Jawahar Lal)
Chief Engineer (Elect)
A2

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Copy

Ref:- SEPL/DHR/194/10-11

Date:- 24/12/10

To,
The Chief Engineers (Elect)
Bihar State Hydroelectric Power Corporation
Sone Bhawna Birchand Patel Marg.
Patna 800001

Sub:- Work order for execution of Balance civil work of Belsar SHP

Ref:- Your order no. 4802 dt 22.12.10

Dear Sir,

We have received work order for execution of Balance civil work of Belsar SHP in this correction we have to say that

1. The agency to whom the work of civil work was awarded, is working at site at different fronts. Apart from them another agency has been also appointed for Rooftruss, Roofing, fixing & fitting of Rolling shutters and steel doors. Under above circumstances, it is not clear from the order to us the scope of work which are entrusted instructed to us. We would further like to clear the following.

- a) The rate and quantity for cement grouting of Power House is mentioned in the order (item no.1) but neither the quantity nor the rate for fixing of grouting nipple had been mentioned in the order. It may be clarified that nipple grouting is to be done by us or by some other agency.
- b) In the order there is an item (item no.3), providing and laying all finishing work, providing colouring etc, for which lumpsum price of Rs. 20,000 is provided. The item of work is vague and it is not clear what finishing is to be done, it may be clarified.
- c) In the order, there is an item (no.6) of PCC Ramp and RCC M-150 in approach of Power House for which rate has been mentioned. This item does not include earth work in excavation, mud mat/Brick soling, reinforcement work. We would like to know that who have to do earth work, mud mat/Brick soling reinforcement work.
- d) In the item no.7 of the order, there is quantity and rate for providing & fixing glazing in Aluminum door, windows, ventilator shutters and partition. But there is no item for Aluminum Partition frame, doors, & windows from the order it is not clear that Aluminum Partition frame, doors and windows are fabricated by us or not.
- e) In the order is an item of providing and fixing expanded metal around switchyard but there is no item for fabrication & erection of frame structure in which the expanded metal would be fixed.

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2) The rates of different item of work are not workable. In this regard we would draw your attention to the following.

- a) For fabrication, supply, erection fixing of trash rack, the rate is Rs. 45,000.00 per mt, which is not workable, earlier your good self has approved Rs.106901.05 per mt for the same work vide your letter no.2783 dt:- 13.8.10.
- b) The lumsum rate for providing and laying all finishing work providing colouring etc is Rs. 20,000.00 and the lumsum rate for providing & painting steel structure window door etc is Rs. 10,000.00. Both the rates are unworkable.
- c) Providing & fixing electrification work (m/c hall, C/R, D.G room etc can not be executed is Rs. 30,000.00
- d) The lumsum rates for providing & fixing water supply & sanitary installation Work, lighting arrangement - around power house, cooling supply system including water storage tank is much less than the cost of materials required.
- e) For supply, fabrication, fitting and fixing of grills there are two rates is the same order (item no.14 & item no.21) and both are different.

Considering the above facts, we have to request you kindly to review the said order so that scope of work is clear and also the rates are revised.

We agree execute the balance civil work of Belsar SHP at schedule of rates of BCD & WRD Plus 10% as the work is Petty nature which would consume more time and labour.

Copy to
The Managing Director
Biher State Hydroelectric Power Corp.
Patna.

Thanking You.
Yours faithfully,
For, Shahabad Engineers. Pvt. Ltd.

self-
(A.K. Singh)
Managing Director

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बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

पत्रांक 1218 /
Civil/Misc/14-479/2006 - II
सेवा में,

दिनांक 6.6.12 CEE/Belsar/01.

मेसर्स एम०के०इन्टरप्राइजेज,
सन सरैया, महावत टोली,
बेतिया - 845438
विषय:- बेलसार जल विद्युत परियोजना के अवधि विस्तार के संबंध में।
प्रसंग:- 1. एकरारनामा सं० -01/इले०/2006-07 दिनांक 03.04.06
2. आपका पत्रांक 13 दिनांक 19.05.12

महाशय,
उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में परियोजना प्रबन्धक डेहरी के अनुशंसा दिनांक 24.05.12 के आलोक में बेलसार जल विद्युत परियोजना एकरारनामा सं० -01 /इले० /2006-07 दिनांक 03.04.06 की कार्य समाप्त करने की अवधि दिनांक 30.03.12 तक विस्तारित की जाती है।

विश्वासभाजन,
ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

ज्ञापांक _____/ पटना दिनांक _____/
प्रतिलिपि श्री पी०एन०सिंह, परियोजना प्रबन्धक, सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को उनके अनुशंसा दिनांक 24.05.12 में क्रम में सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

ज्ञापांक _____/ पटना दिनांक _____/
प्रतिलिपि: प्रबन्धक (वित्त एवं लेखा) बी० एच० पी० सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। इस संबंध में संचिका सं० सिविल/विविध/14-479/06 पार्ट-II के नोटशीट पृ०/60 पर प्रबन्ध निदेशक महोदय से प्राप्त स्वीकृति एवं परियोजना प्रबन्धक डेहरी से प्राप्त अनुशंसा की छायाप्रति संलग्न है।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

ज्ञापांक 1218 / पटना दिनांक 6.6.12 /
प्रतिलिपि: प्रबन्ध निदेशक महोदय, बी० एच० पी० सी०, पटना को सूचनार्थ प्रेषित।

ह०/-
(मणिशरण)
मुख्य अभियंता (प्रभारी)

६५

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बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना

पत्रांक 491 /
 असै०/विविध/14-479/06-पार्ट-2

Civil/Belsar/160212-4
 पटना, दिनांक 12.3.12

सेवा में,

निबंधित

मेसर्स एम०के०इन्टरप्राइजेज,
 सन सरैया, महावत टोली,
 बेतिया - 845438

विषय:- बेलसार जल विद्युत परियोजना (2x500 KW) में पावर चैनल के लाइनिंग कार्य के संबंध में ।

प्रसंग:- 1. एकरारनामा संख्या 01/इलेक्ट/06-07 दिनांक 03.04.2006
 2. परियोजना से प्राप्त पत्र सं० शून्य दिनांक 14/02/12

महाशय,

बेलसार जल विद्युत परियोजना के एकरारनामा में निम्नलिखित कार्य सम्मिलित नहीं है, परन्तु स्वीकृति कार्य योजना के अन्तर्गत विषयांकित कार्य नामांकन के आधार पर इस परियोजना के कार्यरत संवेदक से कराने का निर्णय लिया गया । कार्यों की विवरणी निम्न प्रकार है :-

Sl.No	Item	Unit	Qty	Rate	Amount (in Rs.)
1	E/W in excavation for Drain Trench	M ³	179.76	67.00/M ³	12043.92
2	Fine dressing	M ²	952	45/M ²	42840
3	Sand filter	M ³	53.73	413/M ³	22190.49
4	Gravel filter	M ³	57.54	711.20/M ³	40922.44
5	Supply & Laying Stone Metal filter	M ³	40.83	561.50/M ³	22926.00
6.	P.C.C. lining 100mm thick in bed	M ²	592.8	509.70/M ²	302150.16
7	P.C.C. 125MM thick in slope	M ²	460	637.10/M ²	293066.00
8	Providing P.C.C. M-15 Sleeper	M ³	1.154	5077.05/M ³	5858.91
9	Supply & Laying 150 MM perforated Pipe	M	97.8	141.20/M	13809.36
10	Safety Ladder	Nos	1	5758 each	5758
11	Carriage of materials				
i	Chips	M ³	202.14	749.70/M ³	151544.35
ii	Sand	M ³	105.61	199.90/M ³	21111.43
iii	Cement	MT	37.1	159.50/MT	5913.74
Total Rs.					940134.84
Say Total					940135/-

(रु० नौ लाख चालिस हजार एक सौ पैंतीस) मात्र

उपरोक्त कराए गए कार्यमद मात्रा एवं दर जो अनुसूचित दर के आधार पर है, की स्वीकृति प्रदान की जाती है ।

विश्वासभाजन,

ह०/-

(जवाहर लाल)
 मुख्य अभियंता(वि०)

248

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि:- श्री एस0एन0 चोधरी, कार्यपालक अभियंता (असै0) नहर जल विद्युत
परियोजना, अगनुर पो0-कलेर, जिला-अरवल को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।
इस पर प्रबन्ध निदेशक महोदय की स्वीकृति संचिका सं0 असै0/विविध/14-479/06 पार्ट-2
टिप्पण पृष्ठ 57/टि0 पर प्राप्त है ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता(वि0)

पटना, दिनांक _____ /

ज्ञापांक _____ /
प्रतिलिपि:- प्रबन्धक (वि0/ले0)/प्रबन्धक (लेखा) बी0एच0पी0सी0, पटना को सूचनार्थ
एवं आवश्यक कार्रवाई हेतु प्रेषित । पूर्व में किये गये तदर्थ भुगतान, अगर कोई हो, का सामंजन
करना कृपया सुनिश्चित किया जाय ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

पटना, दिनांक _____ /

ज्ञापांक _____ /
प्रतिलिपि:- श्री पी0एन0सिंह, परियोजना प्रबन्धक, जल विद्युत परियोजना
डेहरी-ऑन-सोन, डेहरी जिला रोहतास को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता(वि0)

पटना, दिनांक 12.3.12

ज्ञापांक 491 /

प्रतिलिपि:- प्रबन्ध निदेशक, बी0एच0पी0सी0, पटना को कृपया सूचनार्थ
समर्पित ।

(जवाहर लाल)
मुख्य अभियंता (वि0)

(747)

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना**

पत्रांक ५९२ /
असै०/विधि/१४-४७९/०६-पार्ट-२
सेवा में,

Civil/Belsar/160212-3
पटना, दिनांक १२-३-१२ /

निबंधित

मेसर्स एम०के०इन्टरप्राइजेज,
सन सरैया, महावत टोली,
बेतिया - 845438

विषय:- बेलसार जल विद्युत परियोजना (21500) में पावर चैनल के बाएँ बैंक पर
आउटलेट के निर्माण के संबंध में।

- प्रसंग:- 1. एकरारनामा संख्या 01/इलेक्ट/०६-०७ दिनांक 03.04.2006
2. परियोजना से प्राप्त पत्र सं० शून्य दिनांक 14/02/12

महाशय,

बेलसार जल विद्युत परियोजना के एकरारनामा में निम्नलिखित कार्य सम्मिलित नहीं है,
परन्तु स्वीकृति कार्य योजना के अन्तर्गत विषयांकित कार्य नामांकन के आधार पर इस
परियोजना के कार्यरत संवेदक से कराने का निर्णय लिया गया। कराये गये कार्यों की विवरणी
निम्न प्रकार है :-

Sl.No	Item	Unit	Qty	Rate	Amount (in Rs.)
1	E/W in excavation	M ³	35.39	54.30/M ³	1921.67
2	Providing sand filling	M ³	12.56	128.40/M ³	1612.70
3	Providing Brick flat Soiling	M ²	77.78	130.90/M ²	10181.40
4	P.C.C. M-15 (1:2:4)	M ³	16.81	3704.60/M ³	62274.32
5	Birck work (1:4)	M ³	48.07	3107.70/M ³	149387.13
6	P/L PCC or R.C.C M-20	M ³	2.40	4313.90/M ³	10353.36
7	M.S Steel reinforcement	MT	0.129	47232.60/MT	6093.00
8	Plaster 20 mm thick (1:4)	M ²	87.09	103.80/M ²	9039.94
9	Providing brick Soiling edge over flat Soiling.	M ²	34.20	340.60/M ²	11648.52
10	Labour for laying NP2 Pipe 300mmφ	M	12.50	133.40/M	1667.50
11	Supply of NP2 Pipe 300mmφ	M	12.50	271.70/M	3396.25
12	Carriage of materials				
i	Bricks	Nos.	24946	731.60%	18250.49
ii	Sand	M ³	39.14	199.90/M ³	7824.08
iii	Chips	M ³	16.68	749.70/M ³	12504.99
iv	Cement	MT	10.9	159.40/MT	1737.46
V	NP2 Hume pipe	M	12.50	28.77/M	359.62
Total Rs.					308252.43

(रु० तीन लाख आठ हजार दो सौ बावन रु० तैतालीस पैसा) मात्र

उपरोक्त कराए गए कार्यमद, मात्रा एवं दर जो अनुसूचित दर के आधार पर है, की
घटनोत्तर स्वीकृति प्रदान की जाती है।

विश्वासभाजन,

ह०/-

(जवाहर लाल)
मुख्य अभियंता(वि०)

(246)

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि:- श्री एस0एन0 चोधरी, कार्यपालक अभियंता (असै0) नहर जल विद्युत परियोजना, अगनुर पो0-कलेर, जिला-अरवल को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित । इस पर प्रबन्ध निदेशक महोदय की स्वीकृति सचिका सं0 असै0/विविध/14-479/06 पार्ट-2 टिप्पण पृष्ठ 57/टि0 पर प्राप्त है ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता(वि0)

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि:- प्रबन्धक (वि0/ले0)/प्रबन्धक (लेखा) बी0एच0पी0सी0, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित । पूर्व में किये गये तदर्थ भुगतान, अगर कोई हो, का सामंजन करना कृपया सुनिश्चित किया जाय ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि:- श्री पी0एन0सिंह, परियोजना प्रबन्धक, जल विद्युत परियोजना डेहरी-ऑन-सोन, डेहरी जिला रोहतास को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता(वि0)

ज्ञापांक 492/

पटना, दिनांक 12.3.12

प्रतिलिपि:- प्रबन्ध निदेशक, बी0एच0पी0सी0, पटना को कृपया सूचनार्थ समर्पित ।

जवाहर लाल
(जवाहर लाल) 12/3/12
मुख्य अभियंता (वि0)

43

बेलसार जल विद्युत परियोजना का BOQ तैयार कर समग्रता में डेविेशन की जाँच हेतु प्रबन्ध निदेशक महोदय से निदेश प्राप्त हुआ है। सुलभ प्रसंग हेतु संचिका सं० Civil/Misc/14-479/2006 के टिप्पण पृष्ठ 77-78 की छायाप्रति संलग्न है।

बेलसार जल विद्युत परियोजना के सारे ड्राईगस ए०एच०पी०सी० रूढ़की से प्राप्त हुआ है। ये सारे नक्शे श्री देवेश कुमार, कनीय अभियंता (असै०), जो वर्तमान में आपके साथ सम्बद्ध है, के माध्यम से प्राप्त किए जा सकते हैं।

अनुरोध है कि बेलसार जल विद्युत परियोजना का ड्राईग के अनुसार आइटम बाइज BOQ/Deviation तैयार करने की कृपा की जाय।

अनु०:- यथोक्त।

गै० सं० प्रे० सं०..... /

प्रतिलिपि:- श्री देवेश कुमार, कनीय अभियंता (असै०), बी०एच०पी०सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-
(शैलेन्द्र)
अधीक्षक अभियंता (असै०)
पटना दिनांक..... /

गै० सं० प्रे० सं०..... /

प्रतिलिपि:- मुख्य अभियंता (वि०), बी०एच०पी०सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-
(शैलेन्द्र)
अधीक्षक अभियंता (असै०)
पटना दिनांक..... /

गै० सं० प्रे० सं०..... 42 /

प्रतिलिपि:- प्रबन्ध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ।

ह०/-
(शैलेन्द्र)
अधीक्षक अभियंता (असै०)
पटना दिनांक 19/11/12

19/11/12
(शैलेन्द्र)
अधीक्षक अभियंता (असै०)

(272/188)

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1**

का० आ० सं०:

Civil/Misc/14-479/2008

पटना, दिनांक:

2/6/19

नाबार्ड ऋण सम्पोषित बेलसार लघु जल विद्युत गृह (2 x 500 कि.वा.) का असेनिक कार्य (पावर हाउस, पावर चैनल, टेलरेस चैनल आदि) के कार्यान्वयन हेतु मेसर्स एम०के०इन्टरप्राइजेज के साथ दिनांक 03.04.08 को एकरारनामा किया गया ।

नाबार्ड ऋण सम्पोषित अन्य परियोजनाओं की तरह बेलसार जल विद्युत गृह के लिए भी निम्नलिखित स्थिति का सामना करना पड़ रहा है:-

1. एकरारनामा में कार्य के जिस मात्रा का उल्लेख है उस मात्रा में अनुमोदित ड्राइंग एवं डिजाइन के आधार पर अप्रत्याशित वृद्धि हुई है ।
2. एकरारनामा के समय स्टील का जो मूल्य था उस मूल्य में भी कार्यान्वयन के समय अप्रत्याशित वृद्धि हुई है ।
3. एकरारनामा के समय सीमेंट का जो मूल्य था उस मूल्य में भी अप्रत्याशित वृद्धि हुई है ।

OLC
उपरोक्त स्थिति उत्पन्न हो जाने पर अन्य परियोजनाओं के सम्बेदकों को एक नीति के तहत अप्रत्याशित मूल्य वृद्धि की प्रतिपूर्ति की गई । बेलसार के सम्बेदक, मेसर्स एम०के०इन्टरप्राइजेज ने भी निगम द्वारा जिस नीति के तहत उपरोक्त तीन मदों में अन्य सम्बेदकों को मूल्य वृद्धि की प्रतिपूर्ति की गई है उसी के अनुरूप प्रतिपूर्ति की जाने की मांग की है ।

यहाँ यह भी उल्लेखनीय है कि अन्य परियोजनाओं में सम्बेदकों को एकरारनामा से बाहर जाकर उपरोक्त मूल्य वृद्धि की प्रतिपूर्ति कार्य की प्रगति को देखते हुए की गई । बेलसार जल विद्युत गृह के निर्माण की प्रगति संतोषजनक नहीं कही जा सकती है ।

(2)

तथापि कार्य की प्रगति बाधित नहीं हो उसपर विचार करते हुए समवेदक द्वारा उपरोक्त मदों में जो दावा किया गया है उसके विरुद्ध एक मुश्त पूर्णतः तदर्थ रूप से रु० 15.00 लाख (रूपये पंद्रह लाख) मात्र का भुगतान मुख्यालय से करने की स्वीकृति निम्नांकित शर्तों के तहत दी जाती है—

1. संवेदक द्वारा 20.06.2010 तक शक्ति गृह के निम्नलिखित कार्यों को संपन्न करा लिया जाएगा ।
 - (क) रूफ ट्रेस लगाकर जी०सी०आई० शीट लगाने का कार्य
 - (ख) ब्रीक-वर्क
 - (ग) अन्दर का प्लास्टर कार्य ।
 - (घ) 10.06.2010 तक पावर चैनल के साइड इम्बैकमेंट की फिलिंग कार्य ।
 - (ङ) 30.06.2010 तक एस०एल०आर० ब्रीज के पीलर का निर्माण कार्य पूरा किया जायेगा ।
 - (च) 15.06.2010 तक टेलरेस की खुदाई कार्य पूरा कर लिया जायेगा ।
- प्रबंध निदेशक के आदेश से,

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि— मेसर्स एम०के०इन्टरप्राइजेज महावत टोली, संसरीया, बेतिया, पिन-845438, पश्चिमी चम्पारण को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि)

ज्ञापांक: _____/

पटना, दिनांक: 3/6/10/

प्रतिलिपि— वित्तीय परामर्शी/ प्रबंधक (लेखा), निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

उनसे अनुरोध है कि भुगतान मुख्यालय से कर इसे बारुण परियोजना को हस्तांतरण मानते हुए लेखा पंजी में दर्ज करें ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि)

(27/182)

(3)

ज्ञापांक: _____/ दिनांक: _____/
प्रतिलिपि- श्री एसओएनओ चौधरी, काओओ (असैओ)/सओओ (लेखा), सोन संयोजक
नहर जल विद्युत परियोजना, बारुण को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

हओ/-

(जवाहर लाल)
मुख्य अभियंता (वि)

दिनांक: _____/

ज्ञापांक: _____/
प्रतिलिपि- श्री पीओ एनओ सिंह, अधीक्षण अभियंता (असै)-सह-परियोजना प्रभारी,
चांडिल जल विद्युत परियोजना, चांडिल, पोस्ट- घोड़ासिंग, जिला- सरायकेला-खरसावां,
झारखण्ड को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

E-mail: pradeepnsingh@ailly.com
फैक्स नं०- 0657-2361172

हओ/-

(जवाहर लाल)
मुख्य अभियंता (वि)

दिनांक: 19/6/10 /

ज्ञापांक: 1929/
प्रतिलिपि- प्रबंध निदेशक, बीओ एचओ पीओ सीओ, पटना को कृपया सूचनार्थ
प्रेषित ।

~~जवाहर लाल~~
3/6/10
(जवाहर लाल)
मुख्य अभियंता (वि)
Smt

पत्रांक 206

प्रेषक

चांडिल, दिनांक 13.10.10

पी० एन० सिंह

परियोजना प्रबन्धक

सोन नहर जल विद्युत परियोजना

डिहरी-ऑन-सोन

सेवा में

मुख्य अभियंता (वि०)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०

सोन भवन, पटना



विषय: बेलसार लघु जल विद्युत परियोजना के असैनिक कार्यों के मद में किए गये अग्रिम भुगतान एवं उनके समायोजन के संबंध में।

- प्रसंग: (i) LOI no. 2863 दिनांक 31.10.05
(ii) एकरारनामा सं० 01/इले०/06-07 दिनांक 03.04.06
(iii) HPP LOI no. 666 दिनांक 13.02.07

महाशय

उपरोक्त विषयक एवं प्रासंगिक एकरारनामों के संबंध में सूचित करना है कि बेलसार लघु जल विद्युत परियोजना के संवेदक मे० एम० के० इंटरप्राइजेज, बेतिया के एकरारनामों को कार्यहित में विघटित करते हुए मे० एच० पी० पी०, न्यू दिल्ली को LOI no. 666 दिनांक 13.02.07 द्वारा E/M package आवंटित किया गया एवं मे० एम० के० इंटरप्राइजेज को सिर्फ असैनिक कार्यों को पूरा करने का उत्तरदायित्व दिया गया। ऐसा करने के उपरान्त भी असैनिक संवेदक द्वारा Work Programme के तहत कार्य नहीं कर पाने एवं कार्य की प्रगति धीमी करने के उपरान्त निगम द्वारा पुनः कार्यहित में आर्थिक सहायता प्रदान की गई। इसके तहत संवेदक को असैनिक सामग्रियों यथा सीमेंट, स्टील, चीप्स इत्यादि को विभिन्न आपूर्तिकर्ताओं से कय कर आपूर्ति की गई एवं मजदूर इत्यादि के भुगतान हेतु संवेदक को अग्रिम भुगतान किया गया है जिसकी विवरणी निम्न प्रकार है—

Sl.no	Date of Payment	Particulars of Advances	Amount Paid as advance
1	04.04.07	P.O.L	Rs. 5,00,000=00
2	15.09.07	P.O.L	Rs. 50,000=00
3	18.09.07	Chips	Rs. 50,000=00
4	26.09.07	Chips	Rs. 48,000=00
5	28.06.07	Steel	Rs. 5,72,000=00
6	24.01.08	Advance to Agency	Rs. 50,000=00
7	07.02.08	P.O.L	Rs. 25,000=00
8	20.02.08	Cement	Rs. 2,31,000=00
8A	20.02.08	Steel	Rs. 3,09,785=00
9	22.04.08	Advance to Agency	Rs. 12,00,000=00
10	29.04.08	Advance to agency for labour payment	Rs. 50,000=00
11	22.05.08	Cement	Rs. 1,36,000=00
12	22.05.08	Steel and Chips	Rs. 2,51,089=00
13	20.05.08	Steel	Rs. 41,260=00
14	20.05.08	Labour	Rs. 40,300=00
15	26.05.08	Cement	Rs. 50,000=00
16	26.05.08	Cement	Rs. 50,000=00
17	03.06.08	Steel	Rs. 4,63,600=00
18	03.06.08	Chips	Rs. 1,00,000=00
19	14.06.08	Labour Payment	Rs. 50,000=00
20	03.06.08	Chips	Rs. 1,00,000=00
21	10.07.08	Chips	Rs. 49,781=00
22	10.7.08	Cement	Rs. 50,000=00
23	15.07.08	Cement	Rs. 36,400=00
24	17.07.08	Cement	Rs. 2,43,880=00
25	28.07.08	Chips	Rs. 4,75,374=00
26	28.07.08	Cement	Rs. 46,000=00
27	28.07.08	Cement	Rs. 2,54,400=00
28	28.07.08	Steel	Rs. 4,30,990=00
29	28.07.08	Cement	Rs. 84,600=00
30	28.07.08	Cement	Rs. 86,400=00
31	30.07.08	Cement	Rs. 14,400=00
32	06.08.08	Labour	Rs. 50,000=00
33	11.08.08	Chips	Rs. 41,828=00
34	11.08.08	Chips	Rs. 42,185=00
35	12.08.08	Labour	Rs. 50,000=00
36	27.08.08	Chips	Rs. 41,373=00
37	27.08.08	Chips	Rs. 41,373=00
38	09.09.08	Labour	Rs. 50,000=00
39	11.09.08	Labour	Rs. 50,000=00

(18)

40	03.10.08	Labour	Rs. 1,00,000=00
41	14.10.08	Steel & Cement	Rs. 9,26,870=00
41A	11.09.08	Labour	Rs. 50,000=00
42	14.10.08	Chips	Rs. 3,19,000=00
43	14.10.08	Chips	Rs. 55,366=00
44	27.10.08	Labour Payment	Rs. 50,000=00
45	27.10.08	Labour Payment	Rs. 20,000=00
46	10.11.08	Labour Payment	Rs. 50,000=00
47	12.02.09	Steel	Rs. 3,00,000=00
48	12.02.09	Bricks	Rs. 2,00,000=00
49	24.02.09	Advance to agency	Rs. 1,00,000=00
50	24.02.09	Advance to agency	Rs. 1,50,000=00
51	09.03.09	Cement	Rs. 50,000=00
52	09.03.09	Labour	Rs. 40,000=00
53	08.04.09	Chips	Rs. 50,000=00
54	08.04.09	Bricks	Rs. 50,000=00
55	17.04.09	Ajay Prakash Steel	Rs. 3,00,000=00
56	28.04.09	Advance to agency for Steel/cement/Chips	Rs. 6,50,000=00
57	21.05.09	Advance to agency	Rs. 2,50,000=00
58	21.05.09	Advance to agency	Rs. 1,00,000=00
59	25.06.09	Steel	Rs. 6,00,000=00
60	25.06.09	Advance to agency	Rs. 2,00,000=00
61	12.07.09	Steel	Rs. 3,00,000=00
62	17.08.09	Advance to agency	Rs. 4,00,000=00
63	17.08.09	Advance to agency	Rs. 4,00,000=00
64	17.08.09	Advance to agency	Rs. 3,50,000=00
65	23.09.09	Advance to agency	Rs. 2,00,000=00
66	15.12.09	Advance to agency for Cement & Steel	Rs. 5,00,000=00
67	20.01.10	Advance to agency for Cement & Steel chips & Bricks	Rs. 3,25,000=00
68	23.02.10	Advance to agency for Cement & Steel	Rs. 2,40,000=00
69	23.02.10	Advance to agency for Bricks	Rs. 60,000=00
70	23.02.10	Advance to agency for Labour	Rs. 1,00,000=00
71	23.02.10	Advance to agency for Shuttering Material	Rs. 40,000=00
72	23.02.10	Advance to agency for Chips	Rs. 80,000=00
73	23.02.10	Advance to agency for Sand	Rs. 30,000=00
74	29.03.10	Advance to agency for Steel	Rs. 3,35,268=00
75	29.03.10	Advance to agency for Cement	Rs. 1,14,000=00
76	07.04.10	Adv. To Agency for, Tracs Rack, Ganpati Ent.	Rs. 2,50,000=00
77	15.04.10	Advance to agency for Material	Rs. 2,00,000=00
78	03.05.10	Advance to agency for Material	Rs. 2,80,000=00
		Total	Rs.1,53,22,716=00
		B/F	Rs.1,53,22,716=00
79	10.07.10	Advance to Agency	Rs. 15,00,000=00

80	17.08.10	Materials	Rs. 5,00,000=00
81	01.09.10	Steel	Rs. 1,00,000=00
82	09.10.10	Cement / Chips, Sand	Rs. 1,33,500=00
83		Labour	Rs. 50,000=00
84		Labour	Rs. 2,63,000=00
		Total	Rs. 1,78,69,216=00
		Advance Adjusted (-)	Rs. 1,27,68,448=00
		Outstanding Balance	Rs. 51,00,768=00

उपरोक्त विवरणी से यह स्पष्ट होगा कि संवेदक के उक्त एकरारनामों को विघटित करने के उपरान्त भी रू० 1,78,69,216/- का अग्रिम भुगतान कार्यहित में करना पड़ा जिसका समायोजन किये गये कार्यों के विपत्र से किया गया है। अभी तक किए गये असैनिक कार्य का भुगतान एवं समायोजन 19th चालू विपत्र दिनांक 15.12.09 जिसकी अमी तक की कुल राशि रू० 2,95,53,535/- मात्र है, के द्वारा किया गया है। असैनिक कार्यों के विपत्रों से रू० 51,00,768/- की राशि समायोजित होना शेष रह गया है। 20th चालू विपत्र संवेदक के सहमति की प्रतीक्षा में लंबित है। 20th चालू विपत्र की विवरणी निम्न प्रकार है-

01. Power House - रू० 16,04,925/-
02. Extra item - रू० 04,61,890/-
03. Tailrace Channel- रू० 02,83,819/-

कुल रू० 23,50,634/-

left over Advance for

Adjustment after 19th R/A रू० - 51,00,768

शेष कुल रू० 27,50,134

निगम मुख्यालय के आदेश के तहत स्टील इत्यादि के मद में रू० 15,00,000/- का भुगतान किया गया है जिसका समायोजन करने के उपरान्त संवेदक पर रू० 12,50,134/- मात्र अग्रिम का समायोजन शेष रह जाएगा।

यह आपके सूचनार्थ एवं आवश्यक कार्रवाई हेतु कृपया प्रेषित।

विश्वासभाजन

68 -

(पी० एन० सिंह)

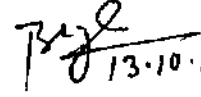
परियोजना प्रबन्धक

(179)

ज्ञापक 205

चांडिल, दिनांक 13.10.10

प्रतिलिपि: प्रबन्ध निदेशक, बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०
सोन भवन, पटना को कृपया सूचनार्थ प्रेषित।


13.10.10

(पी० एन० सिंह)

परियोजना प्रबन्धक

118
44

BIHAR STATE HYDROELECTRIC PWER CORPORATION LTD.
SONE BHAWAN (2nd FLOOR), BIRCHAND PATEL MARG, PATNA - 800 001

No. 3547
Adm/EWH/12-108/04 (Part-VI)

Patna, the 05.10.06 ^{10:00 AM}

To,

TERED.

1. M/s. M.K. Enterprises,
Sansaraiya,
Bettiah -845438
West Champaran,
Bihar.

Sol. Messenger

2. M/s M.K. Enterprises,
Noor Apartment,
2nd Floor, 3J Road,
New Patliputra Colony,
Patna- 800 013.

Sub: Notice for modification of the Contract Agreement No. 1/Elect/2006-07 dated 03.4.2006 to the extent of deleting manufacture, supply, erection and commissioning of Electrical/Mechanical equipment including power evacuation system & O/M of Power House for one year from the scope of work.

- Ref:**
- (i) LOI issued under this office letter no.2863 dated 31.10.2005
 - (ii) Your letter no. 94 dated 08.11.2005
 - (iii) Your letter no. 127 dated 10.3.2006
 - (iv) This office memo no. 997 dated 20.3.2006
 - (v) Your letter no. 137 dated 29.3.2006
 - (vi) This office letter no 1182 dated 03.4.2006
 - (vii) Agreement no. 1/Elect/2006-07 dated 03.4.2006
 - (viii) Your letter no. 104 dated 12.4.2006
 - (ix) This office letter no.1599 dated 08.5.2006
 - (x) Your letter no. 121 dated 01.6.2006
 - (xi) Your letter no. 142 dated 07.6.2006
 - (xii) This office letter no.2200 dated 23.6.2006
 - (xiii) Your letter no. 149 dated 14.7.2006
 - (xiv) This office letter no.2877 dated 19.8.2006
 - (xv) Your letter no. 162 dated 31.8.2006
 - (xvi) Your letter no. 166 dated 25.9.2006

Dear Sir,

Please refer to the letters cited above and also to the Agreement No. 1/Elect/06-07 dated 03.04.2006 for supply, erection, testing and commissioning of Belsar SHP (2 x 500 KW) on turn key basis.

2. The total value of this agreement both for civil as well as electrical/mechanical works was as follows:-

10 (137)

mobilization advance had you agreed to complete the work within completion time by making arrangement of funds yourselves, but you have failed on this score as well. This is apparent from the fact that you have not been able to make advance payments to M/s HPP Energy (India) Pvt. Ltd. as required by them for making advance to the manufacturer of speed increaser and ultimately, the BHPC had to advance this amount of Rs. 4.00 lacs to M/s HPP Energy (India) Pvt. Ltd. for this work against your request in the interest of work. Naturally, this amount will be deducted from your 1st mobilization advance for civil works.

5. The progress of work on the civil front has also not been satisfactory as for the last two months no work is being done at site. So far you have done only the following works and payment has been made against the work done:-

(a) List of civil works done:

- (1) Survey & Investigation of Power House and Layout of Power House.
- (2) Excavation of Power House upto 5.00 M for NGL.

(b) Payment made against the above works:

(1)	1st R/A Bill	-	Rs. 10,19,831.00
(2)	2nd R/A Bill	-	Rs. 1,83,385.00
	Total:	-	<u>Rs. 12,03,216.00</u>

6. This progress is not adequate as period of ten months from the date of L.O.I. and about six months from the date of agreement have already elapsed.

7. Moreover, having not completed the terms of agreement also between yourself and M/s HPP Energy (India) Pvt. Ltd. for supply, erection and commissioning of E/M equipment, M/s HPP Energy (India) Pvt. Ltd. is also not in a position to give you adequate feedback for designing of the civil works without which it may not be possible to continue with the civil works.

8. It is regretted that, even after adequate and reasonable opportunity provided to you, no progress of work has been made at the project site. Even the Bank Guarantees for availing mobilization advances have not been submitted till date, despite your categorical assurance to do the same positively by 11.09.2008. You have also failed to deposit the security money of Rs. 4,00,000/- (Rupees Four lakhs) only which was advanced to M/s HPP Energy (India) Pvt. Ltd., L-71, A-B, First Floor, Mahiya Nagar, New Delhi in the interest of work on your promise to make up the same after receipt of mobilization advance.

9. From what is stated above and in our earlier correspondence, it is manifest that you do not have necessary financial, commercial and technical capability to perform this contract on turn-key basis.

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(4)

10. The Belsar SHP is a NABARD financed project which has to be executed within a specified time frame and, therefore, the Bihar State Hydroelectric Power Corporation (BHPC) cannot wait indefinitely for you to execute the subject contract.

11. M/s HPP, whom you have contracted for manufacture, supply, erection and commissioning the required E/M equipment, have also informed that they are not able to execute their portion of the contract expeditiously due to inadequate financial commitment and support from you.

M/s HPP have finally notified to pull out of the contract with you on account lack of any response, commitment and support from your end.

12. In view of your utter failure and negligence to perform the subject contract and breach of contract, I am constrained to delete the scope of works as detailed in Annexure-I by invoking clause No. 44 of section-3 of the above referred contract agreement as also under the provisions of the Indian Contract Act, 1872 for breach of the Contract.

13. However, you may continue with the following civil works of the value of Rs.3,06,38,839/- (Rupees three crore six lakh thirty-eight thousand eight hundred thirty-nine) only on the conditions specified below amongst others:-

(a)

Sl.no.	Items & Prices	Rs. in lakh
1	Preliminary	8.70
2	Building	23.30
3	Power Plant, Appurtenant and other civil work.	
	(a) Excavation of Power Channel	12.80
	(b) Cost of lining of Power Channel	22.085
	(c) Construction of SLR Bridge on Power Channel	15.16
	(d) Construction of SLR Bridge on Tailrace Channel	15.16
	(e) Construction of Power House	118.06
	(f) Excavation of Tailrace Channel	6.86
	(g) Lining of Tailrace Channel	31.10
	(h) Construction of DLR Bridge on Power Channel	20.16950
4	Miscellaneous	0.85
5	Communication	40.00
	(A) Total value of civil works:	Rs. 3,14,24,450.00
	Special Rebate on civil item (Sl. No. 1 to 5)	(-) 7.85611
		Rs. 3,06,38,839.00

(5)

- (b) Bank Guarantee for obtaining first mobilization advance equivalent to 5% of the total value of the order as above shall be submitted positively by the 31st of October, 2006.
- (c) You will have to adhere to the work programme drawn by the Alternate Hydro Energy Centre, Roorkee, which has already been provided to you.

14. Your confirmation to this effect must reach this office on or before 20th of October, 2006 failing which it will be presumed that you are not interested in executing the work and the undersigned will be free to make alternative arrangements even for the completion of the above mentioned civil works of the value of Rs. 3,06,38,839.00.

Yours faithfully,

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna, dated _____/

Encl: As above

Memo No. _____/

Copy forwarded to Shri Arun Kumar, Head, Alternate Hydro Energy Centre, I.I.T., Roorkee- 247 667 (Uttaranchal), India for information and necessary action.

Fax No: 01332-273517, 273560

E-mail: ahec@iitr.ernet.in, ahec@vsnl.com

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna, the _____/

Memo No. _____/

Copy forwarded to Shri S.N. Choudary, Executive Engineer (C)/Asstt. Manager (A/c), Belsar SHP, Sone Eastern Canal HE Project, Barun (Arrangabad) for information and necessary action.

Executive Engineer (C), is requested to kindly ensure that, work at site continuous even during the intervening period i.e. till 20th of October, 2006, the date by which the contractor has been requested to confirm this order.

This may be treated as Most Urgent.

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna, the _____/

Memo No. _____/

Copy forwarded to Shri P. N. Singh, Project Manager, Chandil Dam HE Project, Chandil, P.O. Ghoraling, Saraikela Kharsawan (Jharkhand) for information & necessary action.

Email: pradeepnsingh@sify.com

Fax No.0857-26484882

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna, dated _____/

Memo No. _____/

Copy forwarded to Financial Advisor/Superintending Engineer (C), Bihar State Hydroelectric Power Corporation Ltd., Patna for information and necessary action.

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

Patna, dated 05.10.06

Memo No. 35471

Copy submitted to Managing Director, Bihar State Hydroelectric Power Corporation Ltd., Patna for kind information.

(Jawahar Lall)

Chief Engineer (Elect.)

31

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
पूर्वी सोन नहर जल विद्युत परियोजना, डेहरी ऑन सोन (रोहतास)**

Civil/Office order/171012

स्वीकृति आदेश

स्वीकृति आदेश सं० 50 /

डेहरी, दिनांक 21/09/12 /

बेलसार लघु जल विद्युत परियोजना में बरसात के मौसम में शक्तिगृह के पावर चैनल एवं टेलरेस चैनल में कटाव को रोकने हेतु उसमें सेन्ड वैग एवं अतिरिक्त मजदूर की व्यवस्था कर कार्य करने हेतु श्री श्याम किशोर सिंह, कैम्प बेलसार को नामांकन के आधार पर कार्य करने की स्वीकृति दी गई है, जिसकी राशि रु० 91,178/- मात्र है। इस कार्य के लिए प्रबन्ध निदेशक द्वारा स्वीकृति प्राप्त है।

उक्त के आलोक में कार्य को निम्न प्रकार से करने की स्वीकृति दी गई है:-

Sl.No	Items of work	Unit	Qty	Rate	Amount
1	Supply of labour for maintenance of Power Channel and Tailrace Channel. up to Sep.2012	Per Mandays	275 Nos.	137.50	37,812.50
2	Supply of empty plastic cement bags.	Per %Nos	5000 Nos.	295.90	14,795.00
3	Labour rate for filling of E.C bags with stitching carring and placing to work site	Per %Nos	5000 Nos.	771.40	38,570.00
Total Rs.91177.5					
Say total Rs. 91178.00					

1. भुगतान की शर्त :- विपत्र के विरुद्ध 100% भुगतान
2. दर :- उपरोक्त दर सभी करों (Taxes) के साथ निर्धारित किए गए हैं।
3. कार्य पूरा करने की अवधि :- कार्यादेश निर्गत की तिथि से 60 दिन
4. भुगतान पदाधिकारी :- सहायक प्रबन्धक (लेखा) निगम मुख्यालय, पटना
5. कार्य प्रभारी :- कार्यपालक अभियंता (असै०)

ह०/-
(पी०एन०सिंह)
परियोजना प्रबन्धक

ज्ञापांक: _____/ दिनांक: _____/
 प्रतिलिपि श्री श्याम किशोर सिंह, कैम्प बेलसार, को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-
 (पी0एन0सिंह)
 परियोजना प्रबन्धक

ज्ञापांक: _____/ दिनांक: _____/
 प्रतिलिपि कार्यपालक अभियंता (असै0), बेलसार जल विद्युत परियोजना, को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-
 (पी0एन0सिंह)
 परियोजना प्रबन्धक

ज्ञापांक: _____/ दिनांक: _____/
 प्रतिलिपि प्रबंधक (वित्त एवं लेखा)/प्रबंधक (लेखा), बी0एच0पी0सी0, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-
 (पी0एन0सिंह)
 परियोजना प्रबन्धक

ज्ञापांक: 214 / दिनांक: 21/09/12/
 प्रतिलिपि अधीक्षण अभियंता(असै0), बी0एच0पी0सी0, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

PSH
 21/9/2012
 (पी0एन0सिंह)
 परियोजना प्रबन्धक

का. अ. (अ)

18/10/12

श्री सुरेश
 Singh
 13/10/12

(2)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।

संख्या - 201 /
सेवा में, Chief Executive Officer, Bihar State Hydro Electric Corporation, Patna

दिनांक - 20/1/12 CEE/Letter(Hindi-3)/263



श्री पी०एन० सिंह,
परियोजना प्रबंधक,
सोन नहर जल विद्युत परियोजना,
डिहरी-ओन-सोन (रोहतास)

विषय: बेलसार जल विद्युत परियोजना - अतिरिक्त कार्य की घटनोत्तर स्वीकृति के संबंध में।

प्रसंग: आपका पत्र दिनांक 01.12.2011

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के क्रम में बेलसार लघु जल विद्युत परियोजना में एकरारनामा से हटकर निम्नलिखित कार्यों को असैनिक कार्यों के संवेदक से कराने की घटनोत्तर स्वीकृति दी जाती है:-

परियोजनान्तर्गत चहारदीवारी का कार्य	रु० 10,82,286.00
परियोजनान्तर्गत पावर चैनल के दाहिने हिस्से की मरम्मत का कार्य	रु० 98,544.00
कुल योग	रु० 11,80,820.00

प्रसंगाधीन पत्र द्वारा प्रेषित प्राक्कलन (मूल में) एवं सक्षम स्तर से प्राप्त स्वीकृति की छाया प्रति अग्रेतर कार्रवाई हेतु संलग्न है।

अनु० :- यथोक्त।

विश्वासभाजन,

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक 201 /

दिनांक 20/1/12

प्रतिलिपि-सह-अनुलग्नक अनुलग्नक की छाया प्रति के साथ प्रबंधक (लेखा), बी०एच०पी०सी०लि०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

अनु० :- यथोक्त।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक 201 /

दिनांक 20/1/12

प्रतिलिपि प्रबन्ध निदेशक, बी०एच०पी०सी०लि०, पटना को कृपया सूचनार्थ समर्पित।

(जवाहर लाल)

मुख्य अभियंता (वि०)

23/1

(46)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

का० आ० सं०: 48 /
Civil/Misc/14-417/2008

पटना, दिनांक: 31.01.08 / Office Order 1/158

निर्माणाधीन नाबार्ड सम्पोषित परियोजनाओं में कुछ ऐसे हैं जिनके असैनिक एवं विद्युत/यांत्रिक कार्यों के लिए अलग-अलग एकरारनामों किये गये हैं यद्यपि दोनों प्रकार के डिजाइन आइ.आइ.टी. रुड़की द्वारा अनुमोदित किये गये हैं ।

इस संबंध में प्रबंधन का ध्यान इस ओर आकृष्ट कराया गया है कि सात परियोजनाओं यथा पहरमा, रामपुर, सेवारी, नटवार, अरवल, बलिदाद, तेजपुरा को छोड़कर शेष तीन परियोजनाओं में यथा श्रीखिण्डा, सेवारी एवं बेलसार में एम20 कंक्रीट कार्य के दर का उल्लेख तो एकरारनामा में तो है, परन्तु एम25 कंक्रीट कार्य के दर का उल्लेख नहीं है जबकि आइ.आइ.टी. रुड़की द्वारा डिजाइन में एम25 कंक्रीट कार्य का उल्लेख है । ऐसी स्थिति में एम25 कंक्रीट कार्य के विरुद्ध सम्वेदक को तदर्थ रूप से जो भी अब तक भुगतान किया जाता रहा है इसमें समरूपता नहीं है ।

ऐसी स्थिति में एम25 कंक्रीट कार्य एकरारनामा से बाहर का आइटम हो जाता है, जिसका सभी परियोजनाओं (कुछ को छोड़कर) के लिए समरूप दर का निर्धारण करना आवश्यक प्रतीत होता है ।

इस संबंध में उल्लेखनीय है कि बिहार सरकार द्वारा स्वीकृत अनुसूचित दर में भी एम20 कंक्रीट कार्य का दर का उल्लेख तो है, परन्तु एम25 कंक्रीट कार्य का दर का उल्लेख नहीं है ।

इस परिप्रेक्ष्य में एम25 कंक्रीट कार्य का दर निर्धारण रू० 5000/- (रूपये पाँच हजार) प्रति घनमीटर किया जाता है । यह 31.03.2008 तक ही मान्य होगा । इस तिथि के बाद एम25 कंक्रीट कार्य होंगे उसका भुगतान रू० 4,500/- प्रति घनमीटर की दर से किया जायेगा ।

उल्लेखनीय है कि सेवारी, श्रीखिण्डा एवं बेलसार जल विद्युत परियोजनाओं में एम25 कंक्रीट का दर अतिरिक्त मद है परन्तु शेष सभी नाबार्ड सम्पोषित परियोजनाओं में एम25 कंक्रीट का दर एकरारनामा में निहित है एवं सम्वेदकों द्वारा जो दर दिया गया है वह निम्न प्रकार है:-

7/c

(2)

क्र.सं	परियोजना का नाम	एम25 कंक्रीट का दर जो एकरारनामा में है
1.	पहरमा जल विद्युत परियोजना	रु0 5,350 प्रति घनमीटर
2.	रामपुर जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
3.	अमेठी जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
4.	नटवार जल विद्युत परियोजना	रु0 5,000 (9% छूट)
5.	अरवल जल विद्युत परियोजना	रु0 4,200
6.	वलिदाद जल विद्युत परियोजना	रु0 4,200
7.	तेजपुरा जल विद्युत परियोजना	रु0 5,000 12.5%

कुल- रु0 31,750

7

रु0 4,536 / -

या रु0 4,500 / -

उपरोक्त एम25 कंक्रीट के लिए प्राप्त दरों का औसत रु0 4,500 / - प्रति घनमीटर ही आता है । अतः 31.03.2008 के उपरान्त यह दर शेष परियोजनाओं यथा सेवारी, श्रीखण्डा एवं बेलसार के लिए मान्य होगा ।

कार्य की प्रगति को और त्वरित करने हेतु (Incentive) के तौर पर वर्तमान तिथि से 31.03.2008 तक एम25 कंक्रीट कार्य जो उपरोक्त तीन परियोजनाओं के लिए अतिरिक्त मद है प्रति घनमीटर कम-से-कम रु0 5,000 / - या जितना स्वीकृत है मुगतेय होगा एवं 31.03.2008 के उपरान्त समी का दर समान करते हुए रु0 4,500 / - प्रति घनमीटर हो जाएगा ।

पूर्व में सेवारी, श्रीखण्डा, बेलसार के लिए एम25 कंक्रीट हेतु औपबधिक दर अगर रु0 4,500 / - प्रति घनमीटर से कम है तो उसे रु0 4,500 / - प्रति घनमीटर की दर से स्वीकृति दी जाती है और अगर ज्यादा है तो वह 31.03.2008 तक ही लागू रहेगा ।

इस संबंध में पूर्व के आदेश को इस हद तक संशोधित किया जाता है ।

प्रबंध निदेशक के आदेश से,

ह0 / -

(जवाहर लाल)

मुख्य अभियंता (वि0)

(3)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री एस०एन०चौधरी, कार्यपालक अभियंता (असै०) / श्री पी०पी०शुक्ला,
सहायक अभियंता (असै०) / सहायक प्रबन्धक (लेखा), सोन पश्चिमी संयोजक नहर जल
विद्युत परियोजना, डिहरी / सोन पूर्वी नहर जल विद्युत परियोजना, बारुण को सूचनार्थ एवं
आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री पी० एन० सिंह, परियोजना प्रभारी-सह-नोडल पदाधिकारी, चांडिल
जल विद्युत परियोजना, चांडिल, पोस्ट- घोड़ालिंग, जिला- सरायकेला- खरसावां को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

E-mail: pradeepsingh@sify.com

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री सूर्य मोहन, अधीक्षण अभियंता (वि०) / श्री शैलेन्द्र, अधीक्षण
अभियंता (असै०) / श्री ए०के०डी० वर्मा, अधीक्षण अभियंता (वि०), निगम मुख्यालय, पटना
को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)


ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- वित्तीय परामर्शी / प्रबन्धक (लेखा) निगम मुख्यालय, पटना को सूचनार्थ
एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक 456 / पटना, दिनांक 31.01.08 /
प्रतिलिपि- प्रबंध निदेशक, बी.एच.पी.सी., पटना को कृपया सूचनार्थ प्रेषित ।


(जवाहर लाल)
मुख्य अभियंता (वि०)

405

Bihar State Hydroelectric Power Corporation Ltd.
"Sone Bhawan", (2nd Floor), Birchand Patel Marg, Patna- 800 001

No. 210 /
Civil/Misc/14-479/06-II

Civil/Belsar/180112
Patna, dated 30/1/12 /

To,

M/s Shahabad Engineers pvt., Ltd.
Road No.-17, Jawahar Nagar,
Mango, Jamshedpur-832110

Sub: - Construction of civil & Allied structures of Belsar SHP (2x500 KW)

Ref: This office letter no. 4802 dated 22.12.10

Sir,

Due to non- availability of fund, the finishing work like false ceiling, Tiles floor, partition of control Room by aluminium frame etc. without which power house can generate power and is not essential for ~~starting~~ will remain suspended till further order. BHPC will give one month notice/time to start the work. It is worth mentioning here that BHPC will not own any financial commitment in the intermediate period.

It is requested kindly to bear with us

Yours faithfully,

Sd/-

(Jawahar Lall)
Chief Engineer (E)

Memo No. _____ /

Patna, dated _____ /

Copy forwarded to Sri P. N. Singh, Project Manager, Sone Link Canal H.E. Project, B.H.P.C. Ltd., B.M.P. Campus, Dehri-on-Sone (Rohtas) for information and necessary action.

Sd/-

(Jawahar Lall)
Chief Engineer (E)

Memo No. _____ /

Patna, dated _____ /

Copy forwarded to Manager (Accounts), B.H.P.C. Ltd., Patna for information and necessary action.

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo No. _____ /

Patna, dated _____ /

Copy forwarded Chief Engineer (Incharge), B.H.P.C. Ltd., Patna for information and necessary action.

Sd/-

(Jawahar Lall)
Chief Engineer (Elect)

Memo no. 210 /

Patna dated 30/1/12 /

Copy Submitted to Managing Director, Bihar State Hydroelectric Power Corporation, Patna for kind information.

(Jawahar Lall)

Chief Engineer (Elect)

1288

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

संख्या 1096 /
असै०/14-479/08.

दिनांक 6-6-11 / CEE/Belsar SHP/7

सेवा में,

मे० एम०के० इन्टरप्राइजेज,
महावतटोली,
बेतिया,
पश्चिमी चम्पारण।

विषय:- बेलसार जल विद्युत परियोजना के निर्माण के संबंध में।

- प्रसंग:- (1) एकरारनामा सं० 01/इले०/08-07 दिनांक 03.04.08.
(2) आपका पत्रांक 05 दिनांक 10.04.2011

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संदर्भ में एकरारनामा में निहित प्रावधान के तहत अपेक्षित कार्रवाई की जा रही है। अनुरोध है कि सर्वप्रथम शेष बचे कार्य को 15 जुलाई, 11 तक पूरा कर मुख्यालय को सूचित करें, ताकि आपके लंबित दावों पर आवश्यक निर्णय लिया जा सके।

स्मरणीय है कि प्रबंध निदेशक महोदय के स्तर पर कार्य की समीक्षा की गयी, जिसमें आप भी उपस्थित थे। समीक्षा के क्रम में आपके द्वारा उठाए गए कुछ मुद्दों का निराकरण परियोजना स्थल से ही किया जा रहा है।

उल्लेखनीय है कि कार्य के स-समय पूरा नहीं होने के कारण जहां फर्मों द्वारा Cost overrun/सूद आदि की मांग की जा रही है, वहीं निगम को एवं विद्युत उत्पादन की हानि हो रही है।

कृपया इसे अतिआवश्यक समझा जाय।

विश्वासभाजन,

ह०/-

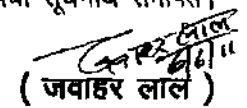
(जवाहर लाल)

मुख्य विद्युत अभियन्ता (वि०)

दिनांक 6-6-11 /

ज्ञापांक 1096 /

प्रतिलिपि प्रबंध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।


(जवाहर लाल)

मुख्य विद्युत अभियन्ता (वि०)

OK

(22)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०
सोन मवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना

पत्रांक 4146 /
सिविल / मिस० / 14-479 / 2008

पटना, दिनांक 26/11/09 / CM/M.K.Enterprises

स्पीड पोस्ट

सेवा में,
मेसर्स एम० के० इन्टरप्राइजेज,
सनसरैया, महावत टोली,
बेतिया ।

विषय:- बेलसार जल विद्युत परियोजना के निर्माण हेतु समय वृद्धि के संबंध में ।

प्रसंग:- (1) एकरारनामा सं०-01 / इले० / 06-07 दिनांक 03.04.06

(2) आपका पत्रांक 312 दिनांक 10.09.09

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र का कृपया स्मरण करे जिसके द्वारा आपने बेलसार जल विद्युत परियोजना के निर्माण हेतु समय वृद्धि का अनुरोध किया है ।

समय वृद्धि का अनुरोध करते समय आपने सूचित किया था कि एक माह के अन्तराल में क्रेन बीम का कार्य पूरा हो जायेगा । यह समय बीत चुका है एवं क्रेन बीम अभी तक नहीं बन सका है ।

साथ ही अन्य कार्य कब तक पूरे किये जायेगे, इसकी भी कोई समय सीमा अंकित नहीं है । ऐसी स्थिति में निगम के समक्ष कठिनाई है कि समय वृद्धि क्यों एवं कब तक के लिए दी जाय ।

वर्णित तथ्यों के आलोक में अनुरोध है कि बिलम्ब का कारण स्पष्ट करते हुए विस्तृत कार्य योजना के साथ समय वृद्धि का सुसंगत प्रस्ताव समर्पित करें, ताकि आपके अनुरोध पर विचार किया जा सके ।

विश्वासभाजन,

ह० / -

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

(23)

(2)

ज्ञापांक...../

पटना, दिनांक...../

प्रतिलिपि:- श्री पी०एन०सिंह, अधीक्षण अभियंता (असै०)-सह-नोडल पदाधिकारी, चांडिल जल विद्युत परियोजना, चांडिल, पो०-घोड़ालिंग, जिला-सरायकेला-खरसावां को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

फैक्स नं०- 0857-2361172 / 2464882

E-mail- pradeepnsingh@sify.com

ह० / -

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

ज्ञापांक...../

पटना, दिनांक...../

प्रतिलिपि:- मुख्य अभियंता (वि०), बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित ।

ह० / -

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)

ज्ञापांक...../

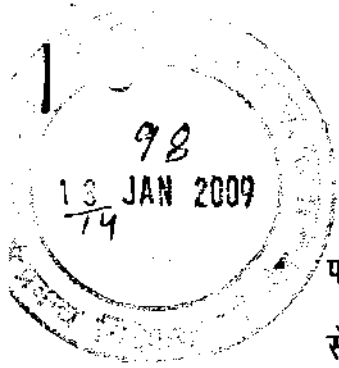
पटना, दिनांक...../

प्रतिलिपि:- प्रबन्ध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित ।

25/11/09

(शैलेन्द्र)

अधीक्षण अभियंता (असै०)



बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,

सोन भवन, द्वितीय मंजिल, बीरचन्द पटेल मार्ग, पटना-800 001.

M (M.K. Enterprises) P-4

पत्रांक - _____

दिनांक - _____

Civil/Misc/14-479/06

सेवा में,

निबंधित

1. मेसर्स एम० के० इन्टरप्राइजेज,
महावत टोली,
संसरैया, बेतिया-845438,
(प० चम्पारण)।
2. मेसर्स एम० के० इन्टरप्राइजेज,
नूर अपार्टमेंट, द्वितीय तल,
3-जे रोड, न्यू पाटलीपुत्रा
कोलोनी, पटना-800 013.

विशेष दूत द्वारा

3. मेसर्स एम० के० इन्टरप्राइजेज,
बेलसार जल विद्युत परियोजना,
बेलसार, जिला-अरवल।

विषय- बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०

बेलसार लघु जल विद्युत परियोजना के निर्माण के संदर्भ में असंतोषजनक प्रगति के लिए कारण बताओ नोटिस/अंतिम मापी के संबंध में।

प्रसंग:-

- (i) एकराशनामा सं०-01/इले०/06-07 दिनांक 03.04.2006.
- (ii) परियोजना प्रबंधक का पत्रांक 065 दिनांक 24.04.2007.
- (iii) इस कार्यालय का पत्रांक 1417 दिनांक 10.04.2007.
- (iv) इस कार्यालय का पत्रांक 1897 दिनांक 30.05.2007.
- (v) इस कार्यालय का पत्रांक 3560 दिनांक 26.10.2007.
- (vi) इस कार्यालय का पत्रांक 3920 दिनांक 30.11.2007.
- (vii) इस कार्यालय का पत्रांक 4033 दिनांक 11.12.2007.
- (xiii) इस कार्यालय का पत्रांक 4047 दिनांक 12.12.2007.
- (ix) इस कार्यालय का पत्रांक 545 दिनांक 01.02.2008.
- (x) इस कार्यालय का पत्रांक 882 दिनांक 01.03.2008.
- (xi) इस कार्यालय का पत्रांक 1158 दिनांक 20.03.2008.
- (xii) इस कार्यालय का पत्रांक 1353 दिनांक 07.04.2008.
- (xiii) इस कार्यालय का पत्रांक 1652 दिनांक 06.05.2008.
- (xiv) इस कार्यालय का पत्रांक 1960 दिनांक 28.05.2008.
- (xv) इस कार्यालय का पत्रांक 3348 दिनांक 10.09.2008.
- (xvi) इस कार्यालय का पत्रांक 4197 दिनांक 28.11.2008.
- (xvi) इस कार्यालय का पत्रांक 4323 दिनांक 05.12.2008.
- (xvi) आपका पत्रांक 195 दिनांक 20.11.2008.
- (xvi) आपका पत्रांक 207 दिनांक 20.12.2008.
- (xvii) आपका फैंक्स पत्रांक 211 दिनांक 10.12.2008.

उपर्युक्त विषयक प्रासंगिक पत्रों का संदर्भ लेने की कृपा करें।



(2)

इन पत्रों से यह स्पष्ट होगा कि मूल बिन्दु से अलग हटकर 16वों तथा 17वों चालू विपत्रों से की गई कटौतियों क्रमशः रु.9,00,000/- एवं रु.6,16,128/- की विवरणी मांग कर मामले को विलम्ब करने का प्रयास किया गया है क्योंकि भुगतानों की विवरणी बारूण कार्यालय से आपके प्रतिनिधि श्री तनवीर ने प्राप्त किया था और आपने स्वयं इनको बारूण कार्यालय में देखने के बाद संतोष प्रकट किया था। तत्पश्चात ही भुगतान किया गया। तथापि कटौतियों की विवरणी पुनः आपके स्मरणार्थ निम्नवत् दी जा रही है :-

क्रम सं०	दिनांक	आपूर्तिकर्ता का नाम	भुगतान की राशि (रुपये में)
1.	20.02.2008	मे० सुनील कुमार सिंह स्टील 6.815 एम० टी० सीमेंट 10 एम० टी०	3,09,785.00
2.	20.02.2008	मे० सत्यदेव सीमेंट 500 बैग स्टोन चीप्स	2,31,000.00
3.	29.04.2008	लेबर पेमेंट (मजदूरों का भुगतान)	50,000.00
4.	22.05.2008	मे० रोहतास इण्टरप्राइजेज सीमेंट 600 बैग	1,36,194.00
5.	22.05.2008	मे० सिद्धार्थ स्टील सीमेंट 200 बैग स्टील 4.728 टी०	2,51,089.00
6.	20.05.2008	मे० सत्यदेव 16mm TMT - 1.029 MT 16mm TMT - 1.005 MT	81,560.00
7.	26.05.2008	मे० मेहर सीमेंट	1,00,000.00
8.	03.06.2008	मे० पारीख इण्टरप्राइजेज स्टील	4,63,600.00
9.	03.06.2008	मे० दयानन्द स्टोन चीप्स	1,00,000.00
कुल अग्रिम की राशि			17,23,228.00
16वों चालू विपत्र के पूर्व कर ली गई कटौती			-2,07,000.00
लेबर + सामग्री के विरुद्ध लिया गया शेष अग्रिम			15,16,228.00
16वों चालू विपत्र से अग्रिम का समायोजन			- 9,00,000.00
17वों चालू विपत्र से अग्रिम का समायोजन			- 6,16,128.00
कुल समायोजित राशि			-15,16,228.00

इस संदर्भ में आपको पुनः आश्वस्त करना चाहता हूँ कि यदि आप मूल प्रमाणक इत्यादि देखना चाहते हैं तो किसी भी कार्य दिवस में सहायक प्रबन्धक (लेखा) वारुण द्वारा यह सुविधा आपको उपलब्ध कराई जा सकती है।

2. आपने 18वें चालू विपत्र की भी चर्चा की है। इस चालू विपत्र से की गई कटौतियों की विस्तृत जानकारी सहायक प्रबन्धक (लेखा) वारुण के कार्यालय से आपके द्वारा प्राप्त की गई है।

18वाँ चालू विपत्र की विस्तृत विवरणी निम्न प्रकार है-

सत्यापित विपत्र की कुल राशि - ₹0 49,11,740.00

कटौतियाँ:-

1. मोब0 एडवान्स का समायोजन	-	₹0 4,91,174.00
2. आयकर	-	₹0 1,11,300.00
3. सेल्स टैक्स	-	₹0 1,96,470.00
4. अग्रिम पर इण्ड्रेस्ट	-	₹0 2,16,762.00
(O/O सं0 106 दि0 02.04.08 के आलोक में)	-	
5. सामग्रियों के विरुद्ध दिया गया अग्रिम	-	₹0 38,60,220.00
स्टील.....	8,63,140.00	
सीमेंट.....	12,80,280.00	
लेबर मद.....	5,30,000.00	
स्टोन चीप्स.....	11,66,280.00	
एम0 एस0 पाइप.....	20,520.00	
कुल योग	₹0 38,60,220.00	
	कुल योग	- ₹0 48,75,926.00
कुल राशि	:	49,11,740.00
पेमेंट किया गया राशि	:	48,75,926.00
शेष भुगतान राशि	:	35,814.00

आपके किसी प्रतिनिधि द्वारा रु० 35,814.00 का भुगतान लेखा कार्यालय वारुण से प्राप्त नहीं करने के कारण डाक द्वारा Bank draft से आपके बेटिया कार्यालय को भेज दिया गया है। साथ ही सूचित किया जाता है कि आपका कोई भी विपत्र लम्बित नहीं है और स्थल पर कार्य पूर्णतः बंद है।

आपके पत्रांक 195 दि० 20.11.08 द्वारा आपके विभिन्न आपूर्तिकर्ताओं को 18वें चालू विपत्र के विरुद्ध रु० 16.0 लाख का भुगतान आपके अनुरोध पर किया गया था। चूँकि 18वें चालू विपत्र के विरुद्ध भुगतान की राशि मात्र रु० 35,814.00 का ही था अतः इस पर विचार करना संभव नहीं था।

इस क्रम में आपका ध्यान पुनः निम्नांकित बिन्दुओं की ओर आकृष्ट कराना आवश्यक है ताकि कार्य की प्रगति में उत्पन्न अवरोध को दूर किया जा सके :-

बेलसार जल विद्युत परियोजना (2x500 किलोवाट) के निर्माण के लिए टर्न-की आधार पर आपके द्वारा दिनांक 03.04.2006 को एकरारनामा किया गया था जिसकी संख्या 01/इलेक/06-07 है। एकरारनामा की कुल राशि रु० 8,35,90,174/- है। निर्माण कार्य में संतोषजनक प्रगति नहीं होने के कारण विद्युत संयंत्र से संबंधित भाग को आपके एकरारनामा से अलग करते हुए इस कार्यालय के पत्रांक 3547 दिनांक 05.10.2006 द्वारा आपके जिम्मे केवल असैनिक कार्यों का निर्माण छोड़ दिया गया (छाया प्रति संलग्न)। तदनुसार इस एकरारनामा की संशोधित राशि रु० 3,06,38,839/- हो गई।

आपके अनुरोध पर यह सुनिश्चित करने के लिए कि परियोजना की प्रगति बाधित नहीं हो, निगम द्वारा 20.03.2006 से ही विभिन्न मदों यथा विद्युत यांत्रिक उपकरण के कार्य, सीमेंट, छड़, स्टोन चिप्स, मजदूरों के भुगतान आदि मदों में भुगतान किया जाता रहा है।

एकरारनामा की शर्तों के अनुसार संशोधित राशि के आधार पर प्रथम मोबिलाईजेशन अग्रिम राशि रु० 15,00,000/- (रुपये पन्द्रह लाख) मात्र का भुगतान दिनांक 04.11.2006 को किया गया। एकरारनामा की शर्तों के अनुसार निर्माण कार्य प्रथम मोबिलाईजेशन अग्रिम के भुगतान के 24 महीने के अन्दर अर्थात् 04.11.2008 तक पूरा हो जाना चाहिए था। परन्तु इस अवधि को बीते भी एक महीने से अधिक हो गया है और

अभीतक मात्र 64.8% काम हुआ है। इस तरह से इस कार्य की प्रगति बहुत ही असंतोषजनक रही है। यद्यपि इस कार्य को पूरा करने के लिए निगम द्वारा सभी आवश्यक सहूलियतें आपको उपलब्ध कराई गई है फिर भी आपने उन सुविधाओं का फायदा उठाकर समय पर काम पूरा करने का प्रयत्न नहीं किया है।

इस कार्यालय के पत्रांक 4197 दिनांक 26.11.2008 के द्वारा असंतोषजनक प्रगति के लिए आपको कारण बताओ नोटिस निर्गत किया गया था परन्तु इस संदर्भ में आपसे कोई उत्तर अभी तक प्राप्त नहीं हुआ है।

इस पत्र के द्वारा आपसे पुनः यह अपेक्षा की जा रही है कि आप दिनांक 22.01.2009 तक स्पष्ट करें कि असंतोषजनक प्रगति के कारण क्यों नहीं आपके एकरासनामा को रद्द कर दिया जाय।

यदि उक्त तिथि तक आपसे कोई उत्तर प्राप्त नहीं होता है तो यह समझा जाएगा कि इस संदर्भ में आपको कुछ नहीं कहना है और एकरासनामा को रद्द करते हुए दिनांक 23.01.2009 को कार्य स्थल पर आपके द्वारा किये गये कार्यों की अद्यतन मापी कर दी जाएगी। अद्यतन मापी के समय कृपया कार्य स्थल पर आप स्वयं या आपके द्वारा प्राधिकृत/प्रतिनियुक्त प्रतिनिधि उपस्थित रहें। यदि आप या आपके प्रतिनिधि इस अवसर पर उपस्थित नहीं रहते हैं तब भी निगम द्वारा मापी ली जाएगी और उसे अन्तिम माना जाएगा।

विश्वासभाजन,

अनु० :- यथोक्त।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक - _____/

दिनांक - _____/

प्रतिलिपि श्री एस०एन० चौधरी, कार्यपालक अभियंता (असै०)/सहायक प्रबन्धक (लेखा), सोन नहर जल विद्युत परियोजना, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

(6)

ज्ञापांक - _____/ दिनांक - _____/
प्रतिलिपि श्री पी०एन०सिंह, परियोजना प्रबन्धक, सोन नहर जल विद्युत परियोजना,
बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु
प्रेषित।

फैक्स नं. : 0857-2464882

E-mal : pradeepnsingh@sify.com

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)


ज्ञापांक - _____/ दिनांक - _____/
प्रतिलिपि विस्तीय परामर्शी/श्री सूर्यमोहन, अधीक्षण अभियंता (वि०)/श्री मणि शरण,
अधीक्षण अभियंता (वि०), बी०एच०पी०सी०लि०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु
प्रेषित।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक - 96/ दिनांक - 13.1.09/
प्रतिलिपि प्रबन्ध निदेशक, बी०एच०पी०सी०लि०, पटना को कृपया सूचनार्थ समर्पित।


(जवाहर लाल)
मुख्य अभियंता (वि०)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०

चर्चा टिप्पणी

(यह न तो कार्यालय से बाहर जाएगा और न मुद्रित होगा)

गै.स.प्रे.सं०: 1469 /

पटना, दिनांक: 17.11.08 /

मुख्य अभियंता (वि)

विषय: बेलसार जल विद्युत गृह के संबंध में ।

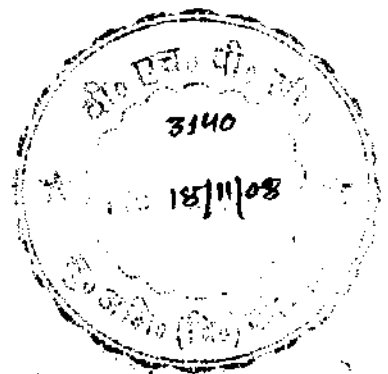
बेलसार जल विद्युत गृह का 15.11.2008 को श्री शैलेन्द्र, अधीक्षण अभियंता (असै) के साथ किये गये स्थल निरीक्षण का कृपया स्मरण करें ।

तत्पश्चात् अगनूर जल विद्युत गृह में तेजपुरा के साथ-साथ बेलसार, अरवल एवं वलिदाद के संबंध में भी विमर्श के क्रम में यह स्मरण कराया गया कि वलिदाद एवं अरवल के संबंध में मेरे द्वारा मांगी गई सूचनाओं को संबंधित संचिका में अलग से उपस्थापित किया जा रहा है । इसके साथ ही मुझे यह भी सूचित किया गया कि बेलसार जल विद्युत गृह के लिए इलेक्ट्रिकल मेकेनिकल इक्यूपमेंट्स स्थल पर आ चुके हैं जिनका इरेक्शन असैनिक कार्य की धीमी प्रगति के कारण सम्भव नहीं हो रहा है ।

वर्णित तथ्यों के आलोक में अनुरोध है कि बेलसार जल विद्युत गृह के असैनिक कार्य को पूरा करने हेतु 01.01.2007 से 30.11.2008 तक किये गये व्यय अथवा सम्वेदक को की गई आर्थिक सहायता की विवरणी श्री पी० एन० सिंह, परियोजना प्रभारी से प्राप्त करते हुए संचिका में कृपया तुरंत उपस्थापित करें ।

अ.अ. (असै)
उपस्थित
18/11/08

(एन० पी० सिन्हा)



SEBARI

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना**

Civil-Sebari/010413

पत्रांक: 936 /

पटना, दिनांक: 25/11/13 /

Civil/Monitoring/14-350/04-III

सेवा में,

मेसर्स शाहाबाद इंजिनियर्स प्रा०लि०,
पाली रोड,
डिहरी-ऑन-सोन
रोहतास - 821307

विषय: सेवारी जल विद्युत परियोजना के असैनिक कार्य के संशोधित कार्यादेश के संबंध में ।

प्रसंग: 1. एकरारनामा सं० 06/सिविल/08-09 दिनांक 09.03.09

2. निगम का पत्रांक 2362 दिनांक 14.07.09

महाशय,

सेवारी जल विद्युत परियोजना के असैनिक कार्यों के लिए ए०एच०ई०सी० रुड़की के नक्शों के आधार पर मदवार मात्रा की गणना की गई है ।

इस पृष्ठभूमि में एकरारनामा सं० 06/सिविल/08-09 दिनांक 25.03.09 एवं निगम के पत्रांक 2362 दिनांक 17.07.09 के मद, मदवार मात्रा, दर एवं राशि निम्नवत संशोधित किया जाता है :-

**A Power House:- Bill of Quantity for construction of Power House
of Sebari S. H. P**

A-1 Items comes under agreement

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work Excavation work in excavation of foundation of Power House and appurtenant structure in all kinds of soil, wet and dry including all leads and lift by mechanical means as per drawing, specification and direction of E/I	98	M ³	789.77	80.00	63181.60
3	Reinforcement for RCC work including straightening cutting, bending in position and binding all complete					
g.	TMT Bar 25.00 mm dia	24.5	MT	24.565	46550.00	1143500.75
6	Supply, fabrication, erection fitting & fitting of trash rack gate complete with all required seals and embedment complete job.	11	MT	11.196	101555.99	1137020.86

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना

Civil-Sebari/270513

पत्रांक: 1260 /

पटना, दिनांक: 26/6/13 /

Civil/Monitoring/14-350/04-JII

सेवा में,

मेसर्स शाहाबाद इंजिनियर्स प्रा०लि०,
पाली रोड,
डिहरी-ऑन-सोन
रोहतास - 821307

विषय: सेवारी जल विद्युत परियोजना के अन्य कार्य मदों के दर स्वीकृत के संशोधन के संबंध में ।

प्रसंग: 1. एकरारनामा सं० 06/सिविल/08-09 दिनांक 09.03.09
2. निगम का पत्रांक 2362 दिनांक 14.07.09
3. निगम का पत्रांक 936 दिनांक 07.05.13

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संबंध में सूचित करना है कि सेवारी जल विद्युत परियोजना से संबंधित कुछ अन्य कार्य मदों में दर स्वीकृति के क्रम में निगम के पत्रांक 936 दिनांक 07.05.13 में निम्नवत अंकित हो गया ।

Total + Service Tax = Rs. 8,04,121/-

उपरोक्त दर को निम्न प्रकार से संशोधित किया जा रहा है :-

Total = Rs. 8,04,121/- Plus Service Tax (Extra)

निगम के पत्रांक 936 दिनांक 07.05.13 को इस हद तक संशोधित समझा जाय ।

विश्वासभाजन,

ह०/-

(मणिशरण)

मुख्य अभियंता

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि श्री पी०पी०शुक्ला, कार्यपालक अभियंता (असै०), सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(मणिशरण)

मुख्य अभियंता

ज्ञापांक _____/

पटना, दिनांक _____/

प्रतिलिपि:- प्रबन्धक (वित्त एवं लेखा), बी०एच०पी०सी०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(मणिशरण)

मुख्य अभियंता

B&C-2 Items comes under Letter no. 2362 dated 14/07/09						
3	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	150	M ²	1041.765	65.55	68287.69
5	Providing safety ladder in lined section of canal with M.S Rod embedded in cement concrete (1:3:6) in accordance with ISS 1966 including royalty all taxes etc al complete as per	2	Nos	3	4722.45	14167.35
6	Providing rough dressed Random rubble stone massonary in cement motor (1:4) in foundation all complete job.	20	M ³	79.299	1395.93	110695.85
7	Supply of Boulder of size 300 without cost of carriage	40	M ³	115.925	336.3	38985.57
8	Labour charges for stone Boulder (concreted) in launching apron and slop (material within 150m lead all lifts) all complete as per approved design.	40	M ³	115.925	281.39	32620.13

D. Bill of Quantity for construction of S.L.R. Bridge on Tail Race Channel of Sebari S. H. P

D-1 Items comes under agreement						
Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Furnishing & Placing reinforcement concrete in super structure as per drawing and technical specification RCC-M20 for Solid Slab Super structure height 50 mtr	85	M ³	87.995	3186.73	280416.30

D-2 Items comes under Letter no. 2362 dated 14/07/09

3	Providing & laying tar paper Bearing in 5 layers of Bitumen felt type 3 Grade-I confirming to IS 1322 and providing hot sealing compound between each laver	12	M ²	18.6	375.25	6979.65
5	Back filling behind abutment wing wall and return wall complete as per drawing and technical specification.					

	Granular Material	6	M ³	39.689	272.65	10821.20
	Sandy Material	10	M ³	37.792	269.8	10196.28
7	Construction pre-cast RCC Railing M-30 Grade, aggregate size not exceeding 12mm true to line and grade, tolerance of vertical RCC Post..... as per specification.	32	Mtr	37.86	1183.7	44814.88

इसके अतिरिक्त संवेदक द्वारा एकरारनामा एवं निगम के पत्रांक 2362 के अतिरिक्त कुछ अन्य कार्य मदों को भी पूरा किया जाना आवश्यक था जिसके लिए दर निम्नवत स्वीकृत किया जाता है :-

Sl. No	Agency Letter No.	Description of work	Amount Claimed by Agency (Rs.)	Amount Recommended for Approval (Rs.)
01	SEPL/DHR/262/08-09 Dated 09.03.09	RCC Wall Cutting at Sabari SHP	56,362.00	54,384.00
02	SEPL/DHR/195/09-10 Dated 18.11.09	Cleaning of Muck & Mud from Down Stream	1,05,387.00	1,00,672.00
03	SEPL/DHR/196/09-10 Dated 04.12.09	Sheeting of Power House with departmental GCI Sheet.	12,310.00	11,932.00
✓04	SEPL/AKS/318/11 Dated 24.04.11	Supplying & Laying interlocking pavers Block	1,97,703.00	1,89,880.00
✓05	SEPL/AKS/319/11 Dated 26.04.11	Cement Pressure Grouting of Power House	89,273.00	82,940.00
06	SEPL/AKS/320/11 Dated 27.04.11	Dewatering work	1,32,769.00	1,27,516.00
✓07	SEPL/AKS/320/11 Dated 27.04.11	Providing 2 nos. of 150 mm Deep Tub well and Supply & installation of 500Ltr. Capacity water Tank.	4,63,973.00	2,26,228.00
08	Claim Bill-14/11-12 Dated 27.04.11	Supply & Installation of Lightning Conductor on Power House	11,004.00	10,569.00
Total + Service Tax			10,68,781.00	8,04,121.00

एकरारनामा सं० 06/सिविल/2008-09 दिनांक 09.03.09 को इस हद तक संशोधित किया जाता है ।

विश्वासभाजन,

ह०/-

(मणिशरण)

मुख्य अभियंता

40	Glass partition work providing and fixing anodized aluminium work of door, windows, ventilators and partition with extruded built up standard tubular and other section of approved make confirming to IS 733 and IS 1285, anodized transparent or dyed to required shade according to IS 1868 fixed with rawl & plug and screws or with fixing slips or with expansion hold fasteners including necessary filling of gaps at junctions at top gaps at junctions at top bottom & sides with required PVC/neoprene felt etc aluminium section shall smooth rust straight metered and jointed mechanically required including beading C.P. brass Stainless steel screws all complete as per architectural drawing and direction of E/I (Glazing and paneling to be paid separately)					
a	For fixed portion	100	kg	333.732	265.38	88565.79
41	Providing and fixing 12mm thick prelaminated three layer medium, density particle board Grade I type II confirming to IS 12823 bonded with phenol formaldehyde synthetic resin of approved brand and manufacture in paneling fixed in aluminium door, windows shutters and partition frames with C.P. Brass/stainless screw etc. all complete. Prelaminated particle board with decorative finish on both side.	15	M ²	21.819	720.81	15727.35
42	Providing and fixing glazing in aluminium door, window ventilator shutters and portions etc. with PVC/neoprene gasket etc. complete with glass pans of 5.5m thickness (weight not less than 13.75kg/M ³)	35	M ²	59.842	581.16	34777.77
43	Providing & fixing double action hydraulic floor spring to approved brand and manufacture (Confirming to IS 6315) for aluminium door including cost of cutting floors of required, embedding in floor and cover plate etc. complete.	2	Nos	6	1531.16	9186.96

45	Providing and fixing level adjusting hanger of 6mm dia M.S Rod (upto 1200mm length) fixed to reef by means of M.S Angle ceiling cleat 40x40x5mm size 40mm long and expansion hold fastener 12.5mm dia 40mm long including applying priming coat of zinc chromate yellow primer for steel members complete.	150	Nos	164	64.03	10500.92
48	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade two or more coat on new surface	150	M ²	235.747	23.79	5608.42
49	Flooring Work Providing and laying verified floor tiles indifferent size with water absorption less than 0.080% and containing all colour & shade laid on 20mm thick cement motor (1-4) including grouting the joints with cement and matching pigments all complete. Size of tiles - 60x60mm	80	M ²	106.456	1006.14	107109.63
51	Painting of Boundary Finishing wall with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade New work (three or more coats)	385	M ²	1989.914	39.8	79198.57

B & C Bill of Quantity for construction of Power Channel & Tail Race Channel of Sebari S. H. P

B & C-1 Items comes under agreement						
Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
2	Earth work in filling in all kinds of soil with initial lead & lift as per drawing.	860	M ³	1391.472	48.35	67277.67
4	Extra for additional lead of 1 mtr. Or part there of over initial lift of 1.5 mtr	1800	M ³	6096.494	3.23	19691.67
5	Extra for Wet soil	600	M ³	1405.998	3.23	4541.37
6	Extra for consolidation in all layers	800	M ³	1391.472	20.14	28024.24
9	Providing 10mm vertical joints in lining at suitable interval filled with bituminous material of approved quality in canal side slop	210	Mtr	546	62.89	34337.94
	Canal Bed	180	Mtr	236	42.56	10044.16

16	Extra for providing and fixing steel beading of approved shape and section with screw instead of glazing clip and metal slash putty in steel door, windows, ventilators and composite units.					
	Steel Window	20	M ²	30.12	172.04	5181.84
17	Providing & fixing oxidized M.S. Sliding door bolt with Nuts and Screw etc complete 250 x 16 mm	5	Nos	14	60.18	842.52
21	Providing & fixing 1mm thick M.S Sheet Metal door with frame of 40 x 40x6 m M.S angle iron and 3mm gusset plates at the junction and corner all necessary fitting all complete including applying a coat of approved steel.	6	M ²	17.31	1568.54	27151.42
22	Providing and fixing M.S. Grill of required pattern in frames of windows etc with M.S Flat square or round bars etc complete.					
	Fixed to steel window	150	kg	181.22	58.19	10545.19
	Fixed opening/frame with	750	kg	1332	58.19	77509.08
23	Providing and fixing M.S Fan clamp toe 1 of 16 mm	2	Nos	7	84.78	593.46
25	Providing ridge or hips of width 60cm overall width G.S. sheet fixed with G.I.J or L hook, bolts and nuts 8mm dia G.I limpet and bitumen washer complete 0.80 mm thick	28	Mtr	34	259.39	8819.26
26	Providing and fixing 15cm wide 45cm overall semicircle plain G.S sheet gutter with iron bracket 40 x 3mm size bolt nut and washer etc including making necessary connection with rain water 0.80mm thick	80	Mtr	94.49	230.89	21816.79
27	Providing Flat iron bracket 50x3 mm size with necessary bolt & nut washer etc for fixing G.S. sheet gutter with purling	38	Mtr	94.49	32.53	3073.75
28	Extra for providing & fixing wind ties of 40 x 6 mm flat iron section.	280	Mtr	584.5	64.74	37840.53
30	Providing & fixing on wall face unplasticized PVC rainwater pipe conforming to IS 4985 including joint with seal ring conforming to IS 5382 leaving 10 mm gap for thermal expansion 110mm dia.	60	Mtr	111.615	136.99	15290.13

31	Providing and fixing on wall face unplasticized PVC molded fittings / accessories for unplasticized PVC rain water pipe confirming to IS 4985 including jointing with seal ring confirming to IS 5382 leaving 10mm gap for thermal expansion.					
a	Bend 110mm	10	Nos	46	113.14	5204.44
b	Shoe 100mm	10	Nos	20	230.28	4605.60
32	Providing fixing unplasticised pipe clip of approved design to unplasticised PVC rain water by means of 50 x 50 x 50 mm hard wood ply, screwed with M.S. screw 110mm	40	Nos	71	72.81	5169.51
33	Wood Work Providing and fixing flush door shutter non decorative type core of block board constructed with frame of 1 st class hardwood and well matched commercial 3 ply veneering with vertical grains or cross band and face veneers of both faces of shutter 35mm thick including anodized aluminium butt hinges with necessary screw.	3	M ²	15.727	672.5	10576.40
34	Providing and fixing aluminium sliding door bolt anodized transparent or dyed to required colour & shade with nuts & screw etc complete	2	Nos	3	119.36	358.08
35	Providing & fixing aluminium sliding tower bolt transparent or dyed to required colour and shade with nuts and screw etc complete 150 x 10mm	2	Nos	4	38.28	153.12
36	Providing & fixing aluminium handle anodized transparent or dyed to required colour and shade with nuts and screw etc complete 125mm	2	Nos	22	43.89	965.58
38	Applying priming coat with ready mix pink or grey primer of approved brand and manufacture on wood work	6.6	M ²	155.305	11.44	1776.68
39	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade two or more coat on new wood work	6.6	M ²	155.305	23.79	3694.70

(46)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

का० आ० सं०: 48 /
Civil/Misc/14-417/2008

पटना, दिनांक: 31.01.08 /
Office Order 1/158

निर्माणाधीन नाबार्ड सम्पोषित परियोजनाओं में कुछ ऐसे हैं जिनके असैनिक एवं विद्युत/यांत्रिक कार्यों के लिए अलग-अलग एकरारनामों किये गये हैं यद्यपि दोनों प्रकार के डिजाइन आइ.आइ.टी. रुड़की द्वारा अनुमोदित किये गये हैं ।

इस संबंध में प्रबंधन का ध्यान इस ओर आकृष्ट कराया गया है कि सात परियोजनाओं यथा पहरमा, रामपुर, सेवारी, नटवार, अरवल, बलिदाद, तेजपुरा को छोड़कर शेष तीन परियोजनाओं में यथा श्रीखिण्डा, सेवारी एवं बेलसार में एम20 कंक्रीट कार्य के दर का उल्लेख तो एकरारनामा में तो है, परन्तु एम25 कंक्रीट कार्य के दर का उल्लेख नहीं है जबकि आइ.आइ.टी. रुड़की द्वारा डिजाइन में एम25 कंक्रीट कार्य का उल्लेख है । ऐसी स्थिति में एम25 कंक्रीट कार्य के विरुद्ध सम्वेदक को तदर्थ रूप से जो भी अब तक भुगतान किया जाता रहा है इसमें समरूपता नहीं है ।

ऐसी स्थिति में एम25 कंक्रीट कार्य एकरारनामा से बाहर का आइटम हो जाता है, जिसका सभी परियोजनाओं (कुछ को छोड़कर) के लिए समरूप दर का निर्धारण करना आवश्यक प्रतीत होता है ।

इस संबंध में उल्लेखनीय है कि बिहार सरकार द्वारा स्वीकृत अनुसूचित दर में भी एम20 कंक्रीट कार्य का दर का उल्लेख तो है, परन्तु एम25 कंक्रीट कार्य का दर का उल्लेख नहीं है ।

इस परिप्रेक्ष्य में एम25 कंक्रीट कार्य का दर निर्धारण रू० 5000/- (रूपये पाँच हजार) प्रति घनमीटर किया जाता है । यह 31.03.2008 तक ही मान्य होगा । इस तिथि के बाद एम25 कंक्रीट कार्य होंगे उसका भुगतान रू० 4,500/- प्रति घनमीटर की दर से किया जायेगा ।

उल्लेखनीय है कि सेवारी, श्रीखिण्डा एवं बेलसार जल विद्युत परियोजनाओं में एम25 कंक्रीट का दर अतिरिक्त मद है परन्तु शेष सभी नाबार्ड सम्पोषित परियोजनाओं में एम25 कंक्रीट का दर एकरारनामा में निहित है एवं सम्वेदकों द्वारा जो दर दिया गया है वह निम्न प्रकार है:-

7/c

(2)

क्र.सं	परियोजना का नाम	एम25 कंक्रीट का दर जो एकरारनामा में है
1.	पहरमा जल विद्युत परियोजना	रु0 5,350 प्रति घनमीटर
2.	रामपुर जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
3.	अमेठी जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
4.	नटवार जल विद्युत परियोजना	रु0 5,000 (9% छूट)
5.	अरवल जल विद्युत परियोजना	रु0 4,200
6.	वलिदाद जल विद्युत परियोजना	रु0 4,200
7.	तेजपुरा जल विद्युत परियोजना	रु0 5,000 12.5%

कुल- रु0 31,750

7

रु0 4,536 / -

या रु0 4,500 / -

उपरोक्त एम25 कंक्रीट के लिए प्राप्त दरों का औसत रु0 4,500 / - प्रति घनमीटर ही आता है । अतः 31.03.2008 के उपरान्त यह दर शेष परियोजनाओं यथा सेवारी, श्रीखण्डा एवं बेलसार के लिए मान्य होगा ।

कार्य की प्रगति को और त्वरित करने हेतु (Incentive) के तौर पर वर्तमान तिथि से 31.03.2008 तक एम25 कंक्रीट कार्य जो उपरोक्त तीन परियोजनाओं के लिए अतिरिक्त मद है प्रति घनमीटर कम-से-कम रु0 5,000 / - या जितना स्वीकृत है मुगतेय होगा एवं 31.03.2008 के उपरान्त समी का दर समान करते हुए रु0 4,500 / - प्रति घनमीटर हो जाएगा ।

पूर्व में सेवारी, श्रीखण्डा, बेलसार के लिए एम25 कंक्रीट हेतु औपबधिक दर अगर रु0 4,500 / - प्रति घनमीटर से कम है तो उसे रु0 4,500 / - प्रति घनमीटर की दर से स्वीकृति दी जाती है और अगर ज्यादा है तो वह 31.03.2008 तक ही लागू रहेगा ।

इस संबंध में पूर्व के आदेश को इस हद तक संशोधित किया जाता है ।

प्रबंध निदेशक के आदेश से,

ह0 / -

(जवाहर लाल)

मुख्य अभियंता (वि0)

(3)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री एस०एन०चौधरी, कार्यपालक अभियंता (असै०) / श्री पी०पी०शुक्ला,
सहायक अभियंता (असै०) / सहायक प्रबन्धक (लेखा), सोन पश्चिमी संयोजक नहर जल
विद्युत परियोजना, डिहरी / सोन पूर्वी नहर जल विद्युत परियोजना, बारुण को सूचनार्थ एवं
आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री पी० एन० सिंह, परियोजना प्रभारी-सह-नोडल पदाधिकारी, चांडिल
जल विद्युत परियोजना, चांडिल, पोस्ट- घोड़ालिंग, जिला- सरायकेला- खरसावां को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

E-mail: pradeepsingh@sify.com

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री सूर्य मोहन, अधीक्षण अभियंता (वि०) / श्री शैलेन्द्र, अधीक्षण
अभियंता (असै०) / श्री ए०के०डी० वर्मा, अधीक्षण अभियंता (वि०), निगम मुख्यालय, पटना
को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)


ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- वित्तीय परामर्शी / प्रबन्धक (लेखा) निगम मुख्यालय, पटना को सूचनार्थ
एवं आवश्यक कार्रवाई हेतु प्रेषित ।

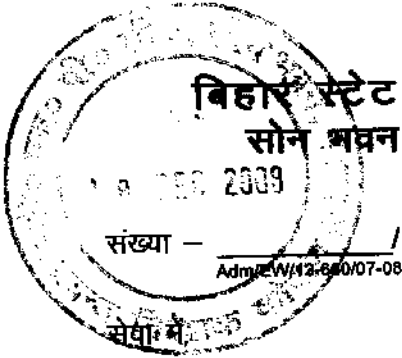
ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक 456 / पटना, दिनांक 31.01.08 /
प्रतिलिपि- प्रबंध निदेशक, बी.एच.पी.सी., पटना को कृपया सूचनार्थ प्रेषित ।


(जवाहर लाल)
मुख्य अभियंता (वि०)



**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

दिनांक - CEE/Letter(Hindi)/82



निबंधित

श्री पी०एन० सिंह,
परियोजना प्रबंधक,
चांडिल डैम जल विद्युत परियोजना, चांडिल,
पो० घोड़ालिंग,
जिला सरायकेला खरसावाँ, (झारखंड)

विषय :- सेवारी (2 x 500 कि० वाट) जल विद्युत परियोजना-अवधि विस्तार के संबंध में ।

प्रसंग :-
1. एकरारनामा सं० 03/इले०/05-06 दिनांक 06.6.2005
2. निगम का पत्रांक 2596 दिनांक 17.7.08
3. निगम का झापांक 2755 दिनांक 29.7.08

महाशय,

उपरोक्त विषयक प्रासंगाधीन पत्रों का कृपया संदर्भ करें ।

उल्लेखनीय है कि सेवारी जल विद्युत परियोजना के कार्यान्वयन के क्रम में मे० एच०पी०पी० इनर्जी (इण्डिया) प्रा०लि० द्वारा विद्युत/यांत्रिक उपकरणों के इरेक्शन कार्य का एक प्रोग्राम समर्पित किया गया था, जिसके अनुसार इस परियोजना का कमीशनिंग सितंबर ०८ तक हो जाना प्रस्तावित था । इसी क्रम में मे० एच०पी०पी० इनर्जी (इण्डिया) द्वारा समर्पित प्रोग्राम की एक प्रति निगम के पत्रांक 2596 दिनांक 17.7.08 द्वारा आपको भेजा गया । इस अनुरोध के साथ कि असैनिक कार्य में भी तदनुसार प्रगति लावें । इसी संदर्भ में सेवारी परियोजना का अवधि विस्तार निगम के पत्रांक 2755 दिनांक 29.7.08 के द्वारा अक्टूबर, ०८ तक कर दी गई ।

अपरिहार्य कारणों से इस परियोजना का कमीशनिंग अभी तक नहीं हो सका है,

जिससे आप भी पूरी तरह वाकिफ होंगे ।

यहां यह भी उल्लेखनीय है कि इस परियोजना के गेट का इरेक्शन कार्य असैनिक कार्य पूरा नहीं होने के कारण नहीं हो पा रहा है । जबकि गेट के निर्माणकर्त्ता मे० हार्डवेयर दूल्स, अहमदाबाद के प्रतिनिधि साईट पर आकर लौट गये हैं । इस संबंध में मे० हार्डवेयर दूल्स के पत्रांक HTMMPL:566/08-09 दिनांक 16.10.08 एवं पत्रांक HTMMPL:963/08-09 दिनांक 04.12.08 की एक प्रति सुलभ सुविधा हेतु संलग्न है ।

(30)

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

CEE/Letter(Hindi)/72

दिनांक - 07.11.08

संख्या - 3977-1
असं/सं/14-350/04

सेवा में,

निबंधित

विषय:

प्रसंग:

मे० विलेज इलेक्ट्रिफिकेशन,
नासरीगंज,
रोहतास।

सेवारी लघु जल विद्युत परियोजना (2 x 500 कि०वाट) के असेनिक कार्यों को पूरा करने हेतु किए गए एकरारनामा को विखंडित करने के संबंध में।

1. एकरारनामा सं० 03/असेनिक/04-05 दिनांक 06.9.04
2. परियोजना प्रबंधक (निर्माण) का पत्रांक 119 दिनांक 10.11.06
3. ऊर्जा विभाग का पत्रांक 535 दिनांक 04.2.08
4. इस कार्यालय का पत्रांक 1428 दिनांक 10.4.07
5. इस कार्यालय का पत्रांक 2614 दिनांक 27.7.07
6. इस कार्यालय का पत्रांक 2778 दिनांक 13.8.07
7. इस कार्यालय का पत्रांक 2779 दिनांक 13.8.07
8. इस कार्यालय का पत्रांक 2822 दिनांक 14.8.07
9. इस कार्यालय का पत्रांक 2829 दिनांक 14.8.07
10. इस कार्यालय का पत्रांक 3171 दिनांक 19.9.07
11. इस कार्यालय का पत्रांक 3200 दिनांक 20.9.07
12. इस कार्यालय का पत्रांक 4030 दिनांक 11.12.07
13. इस कार्यालय का पत्रांक 77 दिनांक 04.1.08
14. इस कार्यालय का पत्रांक 1154 दिनांक 20.3.08
15. इस कार्यालय का पत्रांक 1162 दिनांक 24.3.08
16. इस कार्यालय का पत्रांक 1394 दिनांक 09.4.08
17. इस कार्यालय का पत्रांक 1893 दिनांक 23.5.08
18. इस कार्यालय का पत्रांक 1951 दिनांक 28.5.08
19. इस कार्यालय का पत्रांक 1970 दिनांक 29.5.08
20. इस कार्यालय का पत्रांक 2907 दिनांक 12.8.08

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्रों का संदर्भ किया जाय। यह कार्य आपके इस कार्यालय के पत्रांक 2089 दिनांक 16.8.04 द्वारा आवंटित किया गया था। एकरारनामा के अनुसार इस कार्य को पूरा करने का समय 8(आठ) महीने था। निर्धारित अवधि के दो वर्ष से भी अधिक समय व्यतीत हो जाने के पश्चात् भी इस कार्य को पूरा नहीं किया गया।

इस संदर्भ में विभिन्न प्रासंगिक पत्रों के द्वारा आपको स्मारित किया जाता रहा है, परन्तु निर्माण कार्य में कोई प्रगति नहीं पाई गई। उक्त परिस्थिति में आपके एकरारनामा को

(3)

ज्ञापांक _____/

दिनांक _____/

प्रतिलिपि वित्तीय परामर्शी/प्रबंधक (लेखा), निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-
(जवाहर लाल)
मुख्य अभियंता (वि0)

ज्ञापांक _____/

दिनांक _____/

प्रतिलिपि श्री ए0के0डी0 वर्मा, अ0अ0 (वि0)/तकनीकी सचिव, निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-
(जवाहर लाल)
मुख्य अभियंता (वि0)

ज्ञापांक 3952/दिनांक 03.11.88/

प्रतिलिपि प्रबन्ध निदेशक, बी0एच0पी0सी0, पटना को कृपया सूचनार्थ समर्पित ।

जवाहर लाल
(जवाहर लाल)
मुख्य अभियंता (वि0)

(32)

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.,
SONE BHAWAN:2ND FLOOR:BIRCHAND PATEL MARG, PATNA.

Letter No. _____/
Adm/EW/12-880/07-08.

CEE/Sebari SHP/13
Patna, dated _____/

To,

M/s H.P.P. Energy (India) Pvt. Ltd.,
G-21, Sector-63,
Noida - 201301.

(Fax No. 0120-4699199)

Sub : (2x500 KW) Sebari SHP - Request for time extension for supply, erection testing & commissioning of E/M equipment and waiver of penalty.

Ref : i. This Office agreement no. 03/Elect/05-06 dated 06.06.05.
ii. Your letter no. HPP/BHPC/115/08-09 dated 16.04.08.

Sir,

I am thankfully in receipt of your letter no. HPP/BHPC/119/08-09 dated 16.04.08 of M/s. HPP containing the details of inspection call, dispatch clearance, road permit and payment details in respect to your request for time extension for supply, erection, testing and commissioning of E/M equipment of Sebari SHP.

In this regard you have requested to extend the completion period of works under reference up to 31.12.08 due to reason not attributable on part of yourself.

Kindly in view the status of progress of work submitted by you vide your letter no. HPP/BHPC/119/08-09 dated 16.04.08, you are requested to submit the following details enabling us to examine your request to time extension:-

1. Date of delivery of each E/M equipment at site.
2. Status of civil work at the time of delivery of each E/M equipment.
3. The work programme for balance work in a format as enclosed indicating there in the completion of civil work also before starting the erection of each E/M equipment keeping in view the commissioning schedule by 31.10.2008 as recommended by you.

Kindly treat it **Most Urgent**.

Encl.: As above.

Yours faithfully,

Sd/-
(**Jawahar Lall**)
Chief Engineer (E)

Memo No. _____/

Patna, dated _____/

Copy along with enclosure forwarded to Sri Arun Kumar, Head, AHEC, IIT, Roorkee-247667 (Uttaranchal) for information and necessary action.

Encl.: As above.

Sd/-
(**Jawahar Lall**)
Chief Engineer (E)

1345

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001

No. _____/
Adm/EW/12-430/04-05-III.

CEE/Sebari SHP-5
Patna, dated _____

To,

M/s H.P.P. Energy (India) Pvt. Ltd.,
G - 21, A-B, Sector -63,
Noida - 201301

(Fax No. 0120-4699199)

Sub: Sebari SHP- (2x500 KW) – Approval of time extension.

- Ref: i. This Office agreement No. 03/Elect/05-06 dated 06.06.05.
ii. Your letter no. HPP/BHPC/115/06-07 dated 09.01.07.
iii. This office letter no. 506 dated 05.2.07.
iv. Your letter no. HPP/BHPC/115/07-08 dated 06.08.07.
v. Your letter no. HPP/BHPC/119/07-08 dated 04.02.08.
vi. This office letter no. 1297 dated 01.4.08.
vii. Your letter no. HPP/BHPC/115/07-08 dated 27.02.08
viii. This office letter no. 1647 dated 05.5.08
ix. Your letter no. HPP/BHPC/115/08-09 dated 12.5.08
x. This office letter no. 1988 dated 29.5.08
xi. Your letter no. HPP/BHPC/115/08-09 dated 29.5.08
xii. This office memo no. 2248 dated 18.6.08
xiii. Your letter no. HPP/BHPC/115/08-09 dated 09.7.08.

Sir,

Kindly refer to the above.

The "Completion period" under clause no. 7, Section-I of contract agreement under reference is extended up to October, 2008.

The other terms and conditions of the contract agreement under reference will remain the same.

Kindly acknowledge the receipt of this letter.

Yours faithfully,

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Memo No. _____/

Patna, dated _____/

Copy forwarded to Sri Arun Kumar, Head, AHEC, IIT, Roorkee – 247667 (Uttarnanchal) for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

Memo No. _____/

Patna, dated _____/

Copy forwarded to M/s. Shahabad Engineers Pvt. Ltd., Road no. 17, Jawahar Nagar, Mango, Jamshedpur for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

(31)

Bihar State Hydroelectric Power Corporation Ltd.
"Sone Bhawan", (2nd Floor), Birchand Patel Marg, Patna- 800 001

No. _____ /
Adm/EW/12-430/04-05 (11)

Patna, the _____ M (HPP)/P-13

To,

REGD. POST

**M/s H.P.P. Energy (India) Pvt. Ltd.,
G-A-B Sector - 63,
Noida-201301.**

Fax No. 0120-4699199

Sub:- Sebari SHP (2x500 KW) - Approval of increase in price due to change in Runner diameter.

Ref:-

- i) This office Agreement No. 03/Elect/05-06 dated 06.06.2005.
- ii) This office letter no. 2091 dated 14.06.2007.
- iii) Your letter no. HPP/BHPC/115/07-08 dated 14.04.2007.
- iv) Your letter no. HPP/BHPC/115/07-08 dated 16.05.2007.
- v) This office letter no. 2337 dated 05.07.2007.
- vi) Your letter no. HPP/BHPC/115/07-08 dated 22.06.2007.
- vii) Your letter no. HPP/BHPC/115/07-08 dated 24.08.2007.
- viii) Your letter no. HPP/BHPC/115/07-08 dated 29.03.2008.
- ix) This office letter no. 1646 dated 05.05.2008.

Sir,

With reference to the above coupled with the discussions held on 06.05.2008 with Sri Amar Jeet Singh and Sri Sanjeev Kapoor both Directors of M/s HPP at Patna, clause no. 2 "Price" of the contract agreement is amended as below in the interest of early execution of the project :-

(1) Price of E/M equipment : clause no. 2 :-

The cost of turbine and gear box of both units is enhanced by Rs.20.00 lacs (Rupees twenty lacs) only; taxes/duties extra due to increase in size of turbine.

The other terms and conditions of the contract agreement under reference shall remain unchanged.

Yours faithfully,

**Sd/-
(Jawahar Lall)
Chief Engineer (Elect)**

Memo No. _____ /

Patna, the _____ /

Copy forwarded to Sri Surendra Kumar, Executive Engineer (Elect) / Sri Yogendra Prasad, Executive Engineer (E)/Asstt. Manager (Accounts), Sone Western Link Canal H.E. Project, Dehri (Rohtas) for information and necessary action.

**Sd/-
(Jawahar Lall)
Chief Engineer (Elect)**

(2)

Memo No. _____ / Patna, the _____ /
Copy forwarded to Sri P.N.Singh, Project Manager, Chandil Dam H.E.
Project, Chandil, PO-Ghoraling, Distt.- Saraikela-Kharsawan (Jharkhand) for
information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect)

Memo No. 18341 / Patna, the 20.05.08 /
Copy forwarded to Financial Advisor/ Superintending Engineer (C),
BHPC Ltd., Patna for information and necessary action.

[Signature]
(Jawahar Lall)
Chief Engineer (Elect)
✓

Sh. P.N. Singh

[Signature]
21/05/08

Sri P.N. Singh
[Signature]
21/05/08

1306

Bihar State Hydroelectric Power Corporation Ltd.

"Sone Bhawan", (2nd Floor), Birchand Patel Marg, Patna- 800 001

No. _____
Adm/EW/12-430/04-05-11

Patna, the _____ HPP/EC/08

To,
M/s HPP Energy (India) Pvt. Ltd.,
Sector-63,
Noida - 201301.

Fax No. : 0120-4699199

Email: hppenergy@gmail.com

Sub: Sebari SHP (2x500 KW) - Approval of Time Extension.

- Ref: (i) This office Agreement No. 03/Elect/05-06 dated 6.6.2005
(ii) Your letter No HPP/BHPC/115/06-07 dated 6.8.07
(iii) This office letter No. 3461 dated 22.10.2007
(iv) Your letter No. HPP/AHEC/119/07-08 dated 4.2.2008
(v) This office Order No. 50 dated 31.1.2008.

Sir,

Kindly refer to the cited correspondence on the subject mentioned above.

As would be recalled from the above we have advised you to furnish documentary evidence to support your contention attributing to delay on the part of the BHPC (in giving dispatch clearance, issue of road permit etc.) to justify your request for extension.

We are still awaiting documentary evidence as advised to process your request and take a decision on.

Yours faithfully,

Sd/-

(**Jawahar Lall**)
Chief Engineer

Memo No. _____

Patna, the _____

Copy alongwith enclosure forwarded to Shri P. N. Singh, Project Manager (Construction), Sone E/W canal HE Project, Dehri-on-Sone (Rohtas) for information and necessary action.

Fax: 0657-2464882

Email: pradeepnsingh@slfy.com

Sd/-

(**Jawahar Lall**)
Chief Engineer (Elect.)

Memo No. _____

Patna, the _____

Copy forwarded to Shri Surendra Kumar, E.E.(E)/Shri P.P. Shukla, E.E.(C)/ Shri S.N. Choudhary, E.E.(C)/Asstt. Manager (Accounts), Sone Western Link Canal H.E. Project, Dehri-on-Sone (Rohtas) for information and necessary action.

Sd/-

(**Jawahar Lall**)
Chief Engineer (Elect.)

Memo No. 1297 /

(2)

Patna, the 01.04.08 /

Copy forwarded to Shri Shailendra, S.E.(Civil), Bihar State Hydroelectric Power Corporation Ltd., Patna for information and necessary action.

[Signature]
(**Jawahar Lal**)
Chief Engineer (Elect.)

EECO
[Signature]
02/04/08

AM(P&A)
[Signature]
2/4/08

Sri Dube
[Signature]
2/4/08

1304

BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Mrg, Patna-800 001

No. _____/
Adm/EW/12-430/0405-III.

CEE/Sebari SHP-9
Patna, dated _____

To,

M/s H.P.P. Energy (India) Pvt. Ltd.,
G - 21, A-B, Sector -63,
Noida - 201301

(Fax No. 0120-4699199)

Sub: Sebari SHP- (2x500 KW) – Increase in price due to increase in runner dia.

- Ref:** i. This Office agreement No. 03/Elect/05-06 dated 06.06.05.
ii. This office letter no. 2337 dated 05.07.07.
iii. Your letter no. HPP/BHPC/115/07-08 dated 29.03.08.

Sir,

This has reference to your letter no. HPP/BHPC/115/07-08 dated 29.03.08 on the subject mentioned above.

We have again examined your claim for an amount of Rs. 79.97 lakhs on account of change of Hydrology following the increase of runner dia during course of detailed design and engineering.

During examination it has been found that the cost of turbine as per contract agreement under reference is Rs. 144.00 lakhs. Now you have claimed an increase of an amount of Rs. 79.97 lakhs which is more than 50% of the agreemental cost of turbine appears to be not reasonable.

I still advise you to give your consent on my comments as contained in this office letter no. 2091 dated 14.06.07 enabling us to proceed to take a decision on the matter under reference without any prejudice.

In case you do not agree ^{with} our request your representative may visit our office to discuss and settle the matter.

Yours faithfully,

Sd/-
(Jawahar Lall)
Chief Engineer (Eled.)

Memo No.. _____/

Patna, dated _____/

Copy forwarded to Sri P. N. Singh, P.M., Chandil H.E.P., Chandil, PO – Ghoraling, Saraikela, Kharsawan, Jharkhand for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Eled.)

1303

(2)

Memo No.. _____ / Patna, dated _____ /
Copy forwarded to Sri Surendra Kumar EE (E), Sone Western Link Canal HE Project,
Dehri-on-Sone, Rohtas, for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Eled.)

Memo No.. 1646 / Patna, dated 5-5-08 /
Copy forwarded to Sri Shailendra, SE (C), BHPC, Patna for information and necessary
action.

[Signature]
(Jawahar Lall)
Chief Engineer (Eled.)
via

ES (C)
[Signature]
12/05/08

AM (1st A)
[Signature]
12/5/08
1st 12m 10m
[Signature]
12/5/08

182

BIHAR STATE HYDROELECTRIC POWER CORPORATION

Sone Bhawan, 2nd floor Birchand Patel Marg, Patna- 800 001

No. _____/
Adm/EW/12-498/05

Patna, dated _____/

BRural Elec/54

Speed post

To,

M/s Power Vision Ltd.,
12, HO CHI MINH Sarani,
Kolkatta - 700 016

Fax NO: 033-24488889

Sub: **Amendment in completion period for preparation of detailed Project Report (DPR) for Rural Electrification scheme around Sebari SHP (2X500 KW).**

- Ref:
- i) This office letter no. 1836 dated 21.7.2005.
 - ii) Your office letter no. PVL/Sebari/05-06/01 dated 23.7.2005
 - iii) Your office letter no. PVL/Sebari/05-06/02 dated 25.7.2005
 - iv) This office letter no. 2014 dated 05.8.2005.
 - v) Your office letter no. PVL/Sebari/05-06/03 dated 06.8.2006
 - vi) Your office letter no. PVL/Sebari/05-06/10 dated 03.2.2006
 - vii) Your office letter no. PVL/REC/05-06/19 dated 18.4.2006
 - viii) Your office letter no. PVL/REC/Sebari/06/02 dated 06.5.2006
 - ix) This office letter no. 1997 dated 08.6.2006.
 - xii) Your office letter no. PVL/REC/Sebari/05 dated 26.6.2006
 - xiii) This office letter no. 2582 dated 21.7.2006
 - xiv) Your office letter no. PVL/REC/Sebari/06-07 dated 24.8.2006

Sir,

Kindly refer to correspondence cited above.

In consideration of facts contained in your letter no. PVL/REC/Sebari/06-07 dated 24.8.2006 the completion period under clause no. 5 of order no. 1836 dated - 21.7.2005 is modified again as below:-

Completion period - up to 20.10.2006
(Clause no. 5)

It will be appreciated that it would not be possible to grant further and, therefore, this new deadline has to be met.

Other terms and conditions of the order and subsequent amendment shall remain unaltered.

Yours faithfully,

Sd/-

(Jawahar Lal)

Chief Engineer (Elect.)

Patna, the _____/

Memo No. _____/

Copy forwarded to Shri G. Mallik, Project Manager/Asstt. Manager (A/cs), Sone Western Link Canal H.E. Project, Dehri Distt. - Rohtas for information and necessary action.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect.)

(2)

18)

Memo No. _____/

Patna, the _____/

Copy forwarded to Sri P.N. Singh, Project Manager, Chandil Dam H.E. Project, Chandil P.O. - Ghoraling Kharsawan, West Singhbhum (Jharkhand) for information and necessary action.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect.)

Memo No. 3228/

Patna, the 11.9.06./

Copy forwarded to Sri Shailendra, Superintending Engineer (C)/Manager (A/c)/Asstt. Manager (A/c), H. Qr., B.H.P.C., Patna for information and necessary action.

11/9/06

(Jawahar Lal)

Chief Engineer (Elect.)

EE (C)

12/09/06

A.M (P.S.A)

12/9/06

In the copy
12/9/06

279

BIHAR STATE HYDROELECTRIC POWER CORPORATION
Sone Bhawan, 2nd floor Birchand Patel Marg, Patna- 800 001

No. _____/
Adm/EW/12-498/05

Patna, dated _____/

S/Rural Electr

To,

M/s Power Vision Ltd.,
12, HO CHI MINH Sarani,
Kolkatta - 700 016

Fax NO: 033-24488869

Sub: **Amendment in completion period for preparation of detailed Project Report (DPR) for Rural Electrification scheme around Sebari SHP (2X500 KW).**

- Ref:
- i) This office letter no. 1836 dated 21.7.2005.
 - ii) Your office letter no. PVL/Sebari/05-06/01 dated 23.7.2005
 - iii) Your office letter no. PVL/Sebari/05-06/02 dated 25.7.2005
 - iv) This office letter no. 2014 dated 05.8.2005.
 - v) Your office letter no. PVL/Sebari/05-06/03 dated 06.8.2006
 - vi) Your office letter no. PVL/Sebari/05-06/10 dated 03.2.2006
 - vii) Your office letter no. PVL/REC/05-06/19 dated 18.4.2006
 - viii) Your office letter no. PVL/REC/Sebari/06/02 dated 08.5.2006
 - ix) This office letter no. 1997 dated 08.6.2006.
 - xii) Your office letter no. PVL/REC/Sebari/05 dated 26.6.2006

Sir,

Kindly refer to correspondence cited above.

In consideration of facts contained in your letter no. PVL/REC/Sebari/05 dated 26.6.2006 the completion period under clause no. 5 of order no. 1836 dated - 21.7.2005 is modified again as below:-

Completion period - up to 25.8.2006
(Clause no. 5)

It will be appreciated that it would not be possible to grant further and, therefore, this new deadline has to be met.

Other terms and conditions of the order and subsequent amendment shall remain unaltered.

Yours faithfully,

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)
Patna, the _____/

Memo No. _____/

Copy forwarded to Shri G. Mallik, Project Manager/Asstt. Manager (A/cs), Sone Western Link Canal H.E. Project, Dehri Distt. - Rohtas for information and necessary action.

Sd/-
(Jawahar Lall)
Chief Engineer (Elect.)

(2)

173

Memo No. _____/

Patna, the _____/

Copy forwarded to Sri P.N. Singh, Project Manager, Chandil Dam H.E. Project, Chandil P.O. - Ghoraling Kharsawan, West Singhbhum (Jharkhand) for information and necessary action.

Sd/-

(Jawahar Lal)

Chief Engineer (Elect.)

Memo No. 2582/

Patna, the 21.07.06/

Copy forwarded to Sri Shailendra, Superintending Engineer (C)/Manager (A/c)/Asstt. Manager (A/c), H. Qr., B.H.P.C., Patna for information and necessary action.

Shail
20/7/06
(Jawahar Lal)
Chief Engineer (Elect.)

W
20/7/06

Sh. P. N. Singh

Sh
22/7/06

Dr. D. B. Singh

Dr. D. B. Singh
24/7/06

अनुमादन हेतु प्रारूप

क्रम संख्या.....163

सिमेंटल/मोनीटरिंग/14-350/04

संचिका संख्या.....

दिनांक.....16.1.06

सेवा में,

मे0 भिजेब इलेक्ट्रीफिकेशन वर्क्स,
नामसरीगंज, रोहतास ।

विषय:- सेबारी जल विद्युत परियोजना के निर्माण कार्य से सम्बंधित मिट्टी कार्य
मद में मात्रा की ह्रास की स्वीकृति के सम्बंध में ।

प्रसंग:- स्कारनामा सं0 03/सिविल/04-05 दिनांक 6-9-04 ✓

II परियोजना प्रबंधक का पत्रांक 102 दिनांक 12-12-2005 ✓

महोदय,

उपर्युक्त विषयक पत्रों का ज्ञापना संदर्भ किया जाय । ए.एच.ई.सी. स्की
से प्राप्त निम्नलिखित नक्शों के आधार पर मिट्टी कटाई का कार्य कराया
जा रहा है ।

Sl.No.	Title	Drg. No.
1.	General layout of agreement line of	AHEC/C-284-1001
2.	Excavation details for power house and transition	AHEC/C-284-1002
3.	Earth mat details	AHEC/E-284-1001.

इन नक्शों के अनुसार सत्त कार्य मद की मात्रा स्कारनामा की अंकित
मात्रा से अधिक हो गई है ।

इस परेप्रेक्ष्य एवं कार्रवाई में निम्नांकित संशोधित मात्रा की तदर्थ
स्वीकृति प्रदान की जाती है :-

Sl.No.	Item	Qty. as per agreement	Revised quantity	Clause of agreement.
1.	E/W in excavation of foundation of power house and approved estimate structures in all kinds of soil lifts including all leads & mech. means as per drg. +++	3200 M ³ ✓	10300 M ³ ✓	Section II Item No.1. of power house

होये के पश्चात ही तदर्थ हुई मात्रा - एवं राशि की अंतिम स्वीकृति प्रदान
की जायेगी +

विश्वासभाजन,

(Signature)

जवाहर लाल

मुख्य अभियंता वि०२

M.T.
81
B-2
10/1/06

अ.स.
अ.स.
12/1/06
पृ. 84/4.

+++
Specification
and direction
of E/I.

अनुमोदन हेतु प्रारूप

1126

क्रम संख्या.....

संचिका संख्या.....

संख्या

दिनांक.....

सेवा में,

ज्ञापांक.....

पटना, दिनांक.....

प्रतिलिपि श्री पी०पी०शुक्लसहायक अभियंता (भूत) सहायक प्रबंधक (लेखा) सोन नहर जल विद्युत परियोजना डेहरी को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

Jawahar Lal
॥ जवाहर लाल ॥
मुख्य अभियंता (वि०)

ज्ञापांक.....

पटना, दिनांक.....

प्रतिलिपि श्री पी० एन० सिंह, परियोजना प्रबंधक, डेहरी और सोन को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

Jawahar Lal
॥ जवाहर लाल ॥
मुख्य अभियंता (वि०)

ज्ञापांक.....

पटना, दिनांक.....

प्रतिलिपि श्री शैलेन्द्र, अधीक्षण अभियंता (भूत) बी०एच०पी०सी० को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

Jawahar Lal
॥ जवाहर लाल ॥
मुख्य अभियंता (वि०)

ज्ञापांक 163.....

पटना, दिनांक 16.1.66.....

प्रतिलिपि प्रबंध निदेशक, बी०एच०पी०सी० को कृपया सूचनार्थ समर्पित ।

Jawahar Lal
॥ जवाहर लाल ॥
मुख्य अभियंता (वि०)

BIHAR STATE HYDROELECTRIC POWER CORPORATION Ltd.,
SONE BHAWA-N, 2ND FLOOR, BIRCHAND PATEL MARG, PATNA.

No. _____ / Patna, dated _____

Civil/Monitoring/14-350/04

From,

Shailendra,
Superintending Engineer(G)

To,

Shri P.M. Singh,
Project Manager,
Sone Canal H.E. Project, Dehri,
Dehri-on-Sone.

Sub : Approval of extra Quantity in earth work
of Sebari S.H.P..

Sir,

This has reference to your letter no. 102 dated
12-12-03 address to Chief Engineer(G) and a copy of the
same has been forwarded to Managing Director.

I am desire to convey you that approval for increase
in Quantity against agreemental value will be considered to
be recorded only after receipt of the drawing of raft.

The agency may be advise to depute their representa-
tive to A.H.E.G., Ranches for collecting the same so that
further needful action may be taken at their end.

Yours faithfully,

Sd/-

(Shailendra)
Superintending Engineer(G)

Ahead/

Memo No. _____

Patna, dated _____

Copy forwarded to M/s Village Electrification Works,
Nazariganj, Rohtas Ph.No.06185-232 for information and
necessary action.

Sd/-

(Shailendra)
Superintending Engineer(G)

Memo No. _____

3341

Patna, dated _____

20-12-05

Copy Forwarded to Managing Director/Chief Engineer(E),
BHPG, Patna for kind information.

(Shailendra)
Superintending Engineer(G)

207

**बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय मंजिल), बीरचन्द पटेल मार्ग, पटना।**

संख्या - 3977 /
असै०/मे०/14-350/04

CEE/Letter(Hindi)/7.2
दिनांक - 07.11.08 /

सेवा में,

निबंधित

मे० विलेज इलेक्ट्रिकेशन,
नासरीगंज,
रोहतास।

विषय:

सेवारी लघु जल विद्युत परियोजना (2 x 500 कि०वाट) के असैनिक कार्यों को पूरा करने हेतु किए गए एकरारनामा को विखंडित करने के संबंध में।

प्रसंग:

1. एकरारनामा सं० 03/असैनिक/04-05 दिनांक 06.9.04
2. परियोजना प्रबंधक (निर्माण) का पत्रांक 119 दिनांक 10.11.06
3. ऊर्जा विभाग का पत्रांक 535 दिनांक 04.2.08
4. इस कार्यालय का पत्रांक 1428 दिनांक 10.4.07
5. इस कार्यालय का पत्रांक 2614 दिनांक 27.7.07
6. इस कार्यालय का पत्रांक 2778 दिनांक 13.8.07
7. इस कार्यालय का पत्रांक 2779 दिनांक 13.8.07
8. इस कार्यालय का पत्रांक 2822 दिनांक 14.8.07
9. इस कार्यालय का पत्रांक 2829 दिनांक 14.8.07
10. इस कार्यालय का पत्रांक 3171 दिनांक 19.9.07
11. इस कार्यालय का पत्रांक 3200 दिनांक 20.9.07
12. इस कार्यालय का पत्रांक 4030 दिनांक 11.12.07
13. इस कार्यालय का पत्रांक 77 दिनांक 04.1.08
14. इस कार्यालय का पत्रांक 1154 दिनांक 20.3.08
15. इस कार्यालय का पत्रांक 1162 दिनांक 24.3.08
16. इस कार्यालय का पत्रांक 1394 दिनांक 09.4.08
17. इस कार्यालय का पत्रांक 1893 दिनांक 23.5.08
18. इस कार्यालय का पत्रांक 1951 दिनांक 28.5.08
19. इस कार्यालय का पत्रांक 1970 दिनांक 29.5.08
20. इस कार्यालय का पत्रांक 2907 दिनांक 12.8.08

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्रों का संदर्भ किया जाय। यह कार्य आपके इस कार्यालय के पत्रांक 2089 दिनांक 16.6.04 द्वारा आवंटित किया गया था। एकरारनामा के अनुसार इस कार्य को पूरा करने का समय 8(आठ) महीने था। निर्धारित अवधि के दो वर्ष से भी अधिक समय व्यतीत हो जाने के पश्चात् भी इस कार्य को पूरा नहीं किया गया।

इस संदर्भ में विभिन्न प्रासंगिक पत्रों के द्वारा आपको स्मारित किया जाता रहा है, परन्तु निर्माण कार्य में कोई प्रगति नहीं पाई गई। उक्त परिस्थिति में आपके एकरारनामा को

11/12

(3)

ज्ञापांक _____/

दिनांक _____/

प्रतिलिपि वित्तीय परामर्शी/प्रबंधक (लेखा), निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक _____/

दिनांक _____/

प्रतिलिपि श्री ए0के0डी0 वर्मा, अ0अ0 (वि0)/तकनीकी सचिव, निगम मुख्यालय, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह0/-

(जवाहर लाल)

मुख्य अभियंता (वि0)

ज्ञापांक 3977/दिनांक 07.11.08/

प्रतिलिपि प्रबन्ध निदेशक, बी0एच0पी0सी0, पटना को कृपया सूचनार्थ समर्पित ।

जवाहर लाल
(जवाहर लाल)
मुख्य अभियंता (वि0)

SHRIKHINDA

(121)

Bihar State Hydro Electric Power Corporation LTD.
Sone Canal H.E Project, Nasriganj

No. **528**
 To,
 Superintending Engineer (civil)
 Bihar State Hydro Electric Power Corporation LTD.
 Patna.

मुख्य अभियन्ता बिहार नहर प्रा. लि.
 पत्र सं. 528
 दिनांक 07/11/14

Nasriganj dated: 07/11/14
 Shree M.K. Suman
 Executive Engineer
 E.E.O.
 3
 13/11/14

Sub: Claim of M/S Shahabad Engineers PVT. LTD. For extra work beyond agreement for construction of Power House Building and its allied structure of Shirkhinda SHP.
 Ref: Agreement No. 01/civil/2005-06 dated 27.06.05

Sir,
 As per instructions, M/S Shahabad Engineers PVT. LTD. had executed extra items of work in order to complete the Shirkhinda SHP, which are not covered under agreement no. 01/civil/2005-06 dated 27.6.05 for construction of power house building and its structure of Shirkhinda SHP. After commissioning of project, the agency had submitted claims for payment of extra work. Their claim has been examined and is being recommended for approval for payment as below:

Sl. NO.	Agency letter no.	Description of work	Amount claimed by agency	Amount recommended for approval
1.	SEPL/DHR/12/11-12 Dt. 3.05.11	Supply and laying interlocking power blocks	181086.00	181086.00
2.	SEPL/DHR/21/10-11 Dt. 26.5.11	Providing 150mm dia deep well and water storage tank.	463973.00	237413.00
3.	SEPL/Claim/Shirkhinda/04 Dt. 28.5.11	Cement pressure grouting	40980.00	39380.00
4.	SEPL/Claim/Shirkhinda/04 Dt. 28.5.11	Construction of service road	893000.00	783543.00
Total			15,790,39.00	1241422.00

Approval of payment of Rs. 1241422.00 may be awarded to M/S Shahabad Engineers PVT. LTD. Dehri for extra work beyond agreement executed at Shirkhinda SHP.

Yours Faithfully,

Enclosure: Claim of agency along with recommendation.

(P. A. Shukla)

Executive engineer(civil)

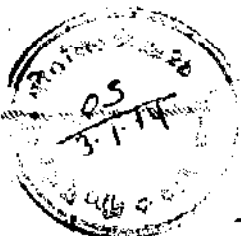
Nasriganj dated: 4/11/13

No. 528

Copy forwarded to The Chief Engineer (elect), Bihar State Hydro Electric Power Corporation LTD. Patna for the kind information.

(P. A. Shukla)
 04/11/13

Executive engineer(civil)



A-2 Items comes under Letter no. 2362 dated 14/07/09

Sl. No	Item of work	Qty Approved	Unit	Qty executed by Agency	Approved rate	Amount (in Rs.)
1	Earth work in excavation of foundation trench in ordinary soil (Vide classification of soil item A) and disposal of excavated earth so obtained (50 m. away from the edge of trench with initial lead of 150 m. and initial lift of 1.5 m. all complete job as per specification.	140	M ³	336.288	43.51	14631.89
5	Earth work in filling in foundation or back filling of Masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed, fully computed and finally dressed with earth obtained after cutting of Borrow pits beyond 150 m lead up to ½km with all lift and carriage by truck complete job as per specification of E/I	350	M ³	988.681	189.05	186910.14
7	Providing & laying of PCC or RCC M150 with nominal mix of (1:2:4)..... as per direction of E/I.	142	M ³	178.483	3082.27	550132.79
8	Providing & laying of RCC M250 with nominal mix of (1:1:2)	210	M ³	249.19	4787.71	1193049.45
9	Providing shuttering including strutting, propping etc and its removal after use in foundation/structure as per specification.	210	M ²	1477.352	184.48	272541.89
12	Masonry Work Brick work in designation 100A Brick work with cement mortar (1:4) in foundation all complete job.	75	M ³	220.897	2271.87	501849.26
14	Plaster Work Providing 25 mm thick cement plaster with approved quality of sand of requisite F.M. washed and screened including curing, scaffolding where ever required and its removal, royalty and all taxes etc. complete job.	2590	M ²	4265.386	114.09	486637.88
15	Providing 1.5mm thick cement punning including curing royalty and all taxes etc complete job as per specification and direction of E/I	10	M ²	368.695	22.42	8266.14

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

पत्रांक : 3335/
 Civil/Misc/14-417/2008

पटना, दिनांक : 24/09/09 ^{M(Shahabad-2)/P-42}

सेवा में,

मे० शाहाबाद इंजीनियर्स प्रा० लि०,
 पाली रोड,
 डेहरी-ऑन-सोन,
 रोहतास - 821 307

फैक्स : 0857-2460894

विषय: **श्रीखिण्डा पावर चैनल एवं टेलरेस चैनल के कार्य मद PCC M-15 lining की दर स्वीकृत करने के संबंध में ।**

- प्रसंग:
1. एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008.
 2. ए.एच.ई.सी.,रूड़की का पत्रांक- AHEC/C-2851015
 3. ए.एच.ई.सी.,रूड़की का पत्रांक- AHEC/C-2851014
 4. आपका पत्रांक- SEPL/DHR/47/09-10 दिनांक 02.06.2009.

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 को सुलभ सुकिया हेतु नीचे उद्धृत किया जा रहा है :-

पावर चैनल

Item of work	Qty.	Unit	Rate	Amount
Providing PCC (1:3:6) with approved quality of graded stone chip of 20mm and down size and coarse sand of approved quality of lug slab, cross and longitudinal sleepers for lining in canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. with all lifts and leads, removal of shuttering etc. all complete as per specification and direction of Engineer-in-Charge.	40	M ³	4000	1,60,000/-

उपरोक्त कार्य मद से स्पष्ट है कि एकरारनामा के तहत पावर चैनल में लाईनिंग कार्य हेतु M-10 कंक्रीट का ही प्राक्धान किया गया था, परन्तु ए.एच.ई.सी., रूड़की द्वारा निर्गत नक्शा संख्या-AHEC/C-2851015 एवं AHEC/C-2851014 में पावर चैनल के अलावे टेलरेस चैनल के लाईनिंग कार्य में भी M-15 में कंक्रीट करने का प्राक्धान किया गया।

निगम द्वारा इन नक्शों के अनुमोदनोपरान्त संवेदक द्वारा M-15 कंक्रीट लाईनिंग का दर निर्धारण करने हेतु उनके प्रासंगिक पत्र के द्वारा अनुरोध प्राप्त हुआ। समीक्षोपरान्त यह पाया गया कि एकरारनामा में उल्लेखित M-10 कंक्रीट के दर से संवेदक द्वारा वांछित M-15 कंक्रीट का दर मात्र 12.97 प्रतिशत अधिक है।

उपरोक्त परिप्रेक्ष्य में आलोक में ए.एच.ई.सी., रुड़की से प्राप्त आलेख के आलोक में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 में निहित M-10 कंक्रीट लाईनिंग को संशोधित करते हुए पावर चैनल एवं टेलरेस चैनल के लाईनिंग में M-15 कंक्रीट लाईनिंग के लिए निम्न दर की स्वीकृति दी जाती है :-

Item of work	Qty.	Unit	Rate	Amount
Providing PCC lining in M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm and down) and coarse sand of approved quality and requisite F.M. in side and bottom portion of the canal in panels with construction joint including cost of form work and its removal, curing, royalty and all other taxes complete job as per specification and direction of Engineer-in-Charge.	448	M ³	4518.60	20,24,332.80

एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008 को आंशिक रूप से इस हद तक संशोधित समझा जाय।

विश्वासमाजन,

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री पी० पी० शुक्ला, कार्यपालक अभियंता (असैनिक)/सहायक प्रबंधक (लेखा), सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री पी० एन० सिंह, परियोजना प्रबंधक, वांछिल डैम हाइड्रोइलेक्ट्रिक प्रोजेक्ट, पी०- घोड़ातिंग, जिला- सरायकेला-खरसौवा, झारखंड को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

फैक्स नं० - 0857-2464882

ईमेल - pradeepnsingh@saify.com

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि- श्री ए०के०डी०वर्मा, अधीक्षण अभियंता (वि०)/श्री मणि शरण, प्रबंध निदेशक के तकनीकी सचिव, बी०एच०पी०सी०लि०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

(3)

89

ज्ञापांक: _____/ पटना, दिनांक: _____/
प्रतिलिपि- वित्तीय परामर्शी/प्रबंधक (लेखा), बी०एच०पी०सी०लि०, पटना को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

म/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: 3335/ पटना, दिनांक: 24/09/09 /
प्रतिलिपि- प्रबंध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।

जवाहर लाल
24/9/09

(जवाहर लाल)

मुख्य अभियंता (वि०)

५५

अनुमोदन हेतु प्रारूप

64

क्रम संख्या.....

संयुक्त संख्या.....

संख्या - 2846

दिनांक 08.08.08

सेवा में,

श्री पी० एन० सिंह,
परियोजना प्रबंधक,
वांछिल जल विद्युत परियोजना,
वांछिल ।

विषय: शिरखिन्दा जल विद्युत परियोजना के विभिन्न कार्यों के मूल
में दर स्वीकृति के संबंध में ।

प्रसंग: निगम का कार्यालय आदेश संख्या 240 दिनांक 05.06.06

महोदय,

शिरखिन्दा जल विद्युत परियोजना के अतिरिक्त कार्यों के

संबंधित द्वारा विभिन्न मदों में दर स्वीकृति करने का अनुरोध किया गया है:-

- 4/55 (1) Approval of rates for different item of works not covered under Agreement no.01/Civil/2005-06dt.27.6.05 for Civil work of Shirkhinda SHP.
- 4/57 (2) Price revision for the Items whose Quantities are more than as mentioned in the Agreement.
- 4/60 (3) Carriage of Earth making power channel Embankment and Area Development of Shirkhinda SHP.
- 4/62 (4) Approval of Rate for PCC M-15 in lining of power Channel & Tail Race Channel of Shirkhinda SHP.

उपरोक्त आदेशों की प्रति संलग्न करते हुए अनुरोध है

कि निगम के कार्यालय आदेश संख्या 240 दिनांक 05.06.06 के आशय में

अतिरिक्त कार्रवाई की जाय एवं इस कार्रवाई के अर्थोपपन्नियों के भुगतान कराने में सहायता हो जाय ।

अनुमोदन:- मन्मथ । (प्र.स.ल.सं.)

विश्वनाथनाथ,

जवाहर लाल

मुख्य अभियंता वि०

प्रतिलिपि:- विस्तीय परामर्शी, डी०एच०पी०सी०,पटना को

प्रतिलिपि
में प्रेषित

अनुमोदन हेतु प्रारूप

क्रम संख्या.....

संचिका संख्या.....

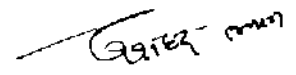
संख्या

दिनांक.....

सेवा में,


- 2 -

सूचनाः स्व आवश्यक कार्रवाई हेतु प्रेषित ।


॥ जवाहर लाल ॥
मुख्य अभियंता ॥ वि० ॥

प्रतिलिपि:- प्रबन्ध निदेशक, बी०एच०पी०सी०, पटना

को कृपया सूचनाः समर्पित ।


॥ जवाहर लाल ॥
मुख्य अभियंता ॥ वि० ॥

247

STATE HYDROELECTRIC POWER CORPORATION, PATNA

Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna – 800 001.

No. 966 /
Civil/Misc./14-417/06

Patna, Dated 7-3-08 /
Civil 14-417 Amp

Speedpost To,

M/S Shahabad Engineers Pvt. Ltd.
Road. No -17,
Jawahar Nagar, Mango,
Jamshedpur-832 110

Fax NO.-0657-2460694

Sub:- Shirkhinda SHP (2x350Kw):- Extension of time.

Ref:- (1) Agreement no.01/Civil/05-06 dated-27.06.05
(2) This office letter no.4090 dated.-17.12.07
(3) Your letter no. SEPI/AKS/76/07-08 dated.-21.12.07

Sir,

With reference to the above, you have requested for extension of time completion period /time of Shirkhinda SHP without submitting revised work programme of civil work.

It, is, therefore, requested that the revised/modified work programme for the completion of Shirkhinda SHP should be submitted as early as possible so that time extension can be considered.

It Must be treated as most urgent.

Yours faithfully,

Sd/-
(Shailendra)
S.E. (Civil)

Memo No.- 966 Patna, dated 7-3-08
Copy forwarded to Sri P.N.Singh, Project Manager (Construction) Chandil Dam
HEP, Chandil, P.O.- Ghoralingh, (Kharsawan), Dist:- Saraikela (Jharkhand) for
information & necessary action.

ok

27/07/08
(Shailendra)
S.E. (Civil)

(46)

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

का० आ० सं०: 48 /
Civil/Misc/14-417/2008

पटना, दिनांक: 31.01.08 /
Office Order 1/158

निर्माणाधीन नाबार्ड सम्पोषित परियोजनाओं में कुछ ऐसे हैं जिनके असैनिक एवं विद्युत/यांत्रिक कार्यों के लिए अलग-अलग एकरारनामों किये गये हैं यद्यपि दोनों प्रकार के डिजाइन आइ.आइ.टी. रुड़की द्वारा अनुमोदित किये गये हैं ।

इस संबंध में प्रबंधन का ध्यान इस ओर आकृष्ट कराया गया है कि सात परियोजनाओं यथा पहरमा, रामपुर, सेवारी, नटवार, अरवल, बलिदाद, तेजपुरा को छोड़कर शेष तीन परियोजनाओं में यथा श्रीखिण्डा, सेवारी एवं बेलसार में एम20 कंक्रीट कार्य के दर का उल्लेख तो एकरारनामा में तो है, परन्तु एम25 कंक्रीट कार्य के दर का उल्लेख नहीं है जबकि आइ.आइ.टी. रुड़की द्वारा डिजाइन में एम25 कंक्रीट कार्य का उल्लेख है । ऐसी स्थिति में एम25 कंक्रीट कार्य के विरुद्ध सम्वेदक को तदर्थ रूप से जो भी अब तक भुगतान किया जाता रहा है इसमें समरूपता नहीं है ।

ऐसी स्थिति में एम25 कंक्रीट कार्य एकरारनामा से बाहर का आइटम हो जाता है, जिसका सभी परियोजनाओं (कुछ को छोड़कर) के लिए समरूप दर का निर्धारण करना आवश्यक प्रतीत होता है ।

इस संबंध में उल्लेखनीय है कि बिहार सरकार द्वारा स्वीकृत अनुसूचित दर में भी एम20 कंक्रीट कार्य का दर का उल्लेख तो है, परन्तु एम25 कंक्रीट कार्य का दर का उल्लेख नहीं है ।

इस परिप्रेक्ष्य में एम25 कंक्रीट कार्य का दर निर्धारण रू० 5000/- (रूपये पाँच हजार) प्रति घनमीटर किया जाता है । यह 31.03.2008 तक ही मान्य होगा । इस तिथि के बाद एम25 कंक्रीट कार्य होंगे उसका भुगतान रू० 4,500/- प्रति घनमीटर की दर से किया जायेगा ।

उल्लेखनीय है कि सेवारी, श्रीखिण्डा एवं बेलसार जल विद्युत परियोजनाओं में एम25 कंक्रीट का दर अतिरिक्त मद है परन्तु शेष सभी नाबार्ड सम्पोषित परियोजनाओं में एम25 कंक्रीट का दर एकरारनामा में निहित है एवं सम्वेदकों द्वारा जो दर दिया गया है वह निम्न प्रकार है:-

7/c

(2)

क्र.सं	परियोजना का नाम	एम25 कंक्रीट का दर जो एकरारनामा में है
1.	पहरमा जल विद्युत परियोजना	रु0 5,350 प्रति घनमीटर
2.	रामपुर जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
3.	अमेठी जल विद्युत परियोजना	रु0 4,000 प्रति घनमीटर
4.	नटवार जल विद्युत परियोजना	रु0 5,000 (9% छूट)
5.	अरवल जल विद्युत परियोजना	रु0 4,200
6.	वलिदाद जल विद्युत परियोजना	रु0 4,200
7.	तेजपुरा जल विद्युत परियोजना	रु0 5,000 12.5%

कुल- रु0 31,750

7

रु0 4,536 / -

या रु0 4,500 / -

उपरोक्त एम25 कंक्रीट के लिए प्राप्त दरों का औसत रु0 4,500 / - प्रति घनमीटर ही आता है । अतः 31.03.2008 के उपरान्त यह दर शेष परियोजनाओं यथा सेवारी, श्रीखण्डा एवं बेलसार के लिए मान्य होगा ।

कार्य की प्रगति को और त्वरित करने हेतु (Incentive) के तौर पर वर्तमान तिथि से 31.03.2008 तक एम25 कंक्रीट कार्य जो उपरोक्त तीन परियोजनाओं के लिए अतिरिक्त मद है प्रति घनमीटर कम-से-कम रु0 5,000 / - या जितना स्वीकृत है मुगतेय होगा एवं 31.03.2008 के उपरान्त समी का दर समान करते हुए रु0 4,500 / - प्रति घनमीटर हो जाएगा ।

पूर्व में सेवारी, श्रीखण्डा, बेलसार के लिए एम25 कंक्रीट हेतु औपबधिक दर अगर रु0 4,500 / - प्रति घनमीटर से कम है तो उसे रु0 4,500 / - प्रति घनमीटर की दर से स्वीकृति दी जाती है और अगर ज्यादा है तो वह 31.03.2008 तक ही लागू रहेगा ।

इस संबंध में पूर्व के आदेश को इस हद तक संशोधित किया जाता है ।

प्रबंध निदेशक के आदेश से,

ह0 / -

(जवाहर लाल)

मुख्य अभियंता (वि0)

(3)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री एस०एन०चौधरी, कार्यपालक अभियंता (असै०) / श्री पी०पी०शुक्ला,
सहायक अभियंता (असै०) / सहायक प्रबन्धक (लेखा), सोन पश्चिमी संयोजक नहर जल
विद्युत परियोजना, डिहरी / सोन पूर्वी नहर जल विद्युत परियोजना, बारुण को सूचनार्थ एवं
आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री पी० एन० सिंह, परियोजना प्रभारी-सह-नोडल पदाधिकारी, चांडिल
जल विद्युत परियोजना, चांडिल, पोस्ट- घोड़ालिंग, जिला- सरायकेला- खरसावां को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

E-mail: pradeepsingh@sify.com

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- श्री सूर्य मोहन, अधीक्षण अभियंता (वि०) / श्री शैलेन्द्र, अधीक्षण
अभियंता (असै०) / श्री ए०के०डी० वर्मा, अधीक्षण अभियंता (वि०), निगम मुख्यालय, पटना
को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)


ज्ञापांक _____ / पटना, दिनांक _____ /
प्रतिलिपि- वित्तीय परामर्शी / प्रबन्धक (लेखा) निगम मुख्यालय, पटना को सूचनार्थ
एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक 456 / पटना, दिनांक 31.01.08 /
प्रतिलिपि- प्रबंध निदेशक, बी.एच.पी.सी., पटना को कृपया सूचनार्थ प्रेषित ।


(जवाहर लाल)
मुख्य अभियंता (वि०)

136

**BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001**

No. 4090/1
Civil/Misc/14-41706.

Patna, dated 17-12-07 CEE/Shirkhinda SHP/2

SPEED POST

To,

M/s. Shahabad Engineers Pvt. Ltd.,
Road No. 17,
Jawahar Nagar, Mango,
Jamshedpur - 832110.

FAX - 0657 - 2460694

Sub:- Shirkhinda SHP (2 x 350 KW) - Extension of time.

**Ref:- (i) Agreement no. 01/Civil/05-06 dated 27.6.06.
(ii) Your letter no. SEPL/DHR/75/07-08 dated 13.10.07.**

Sir,

Kindly recall the above regarding extension of time for completion of our Shirkhinda SHP.

It may kindly be noted that you have applied for the time extension, without indicating the time/date for the same. As per the schedule, prepared by AHEC, Roorkee, the Shirkhinda SHP is supposed to be commissioned by Dec., 07. -

It is, therefore, requested that the modified actual work programme for the completion of Shirkhinda SHP be submitted immediately and accordingly a date may be mentioned so that time extension can be considered.

Yours faithfully,

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

dated 17-12-07 /

Memo no. 4090/1

Copy forwarded to Sri P.N. Singh, Project Manager, Chandil Dam HEP, Chandil, P.O.-
Ghoraling, Kharsawan, West Singhbhum (Jharkhand) for information and necessary action.

(Signature)

(Jawahar Lall)

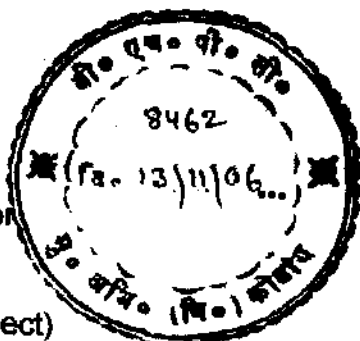
Chief Engineer (Elect)

alc

No: 126

From

P. N. Singh
Project Manager



Dehri-On-Sone, Dated: 10/11/2006

To

The chief Engineer (Elect)
Bihar State Hydroelectric Power Corporation
Sone Bhawan, Birchand Patel Marg,
Patna.

S.E.C.
Pl. put up immediately.
EECO/SZ. Demand. 12/11/06
13/11/06

Sub :- Approval of Rate for PCC M10 & RCC M25 in Construction of Power House at Shirkhinda SHP.

Ref :- Agreement no. 01/Civil/05-06 & Shahabad Engineers Pvt. Ltd. Letter no. SEPL/DHR/147/06-07 dated 26/9/06.

Sir,

The agency for Civil Work of Shirkhinda SHP M/s Shahabad Engineers Pvt. Ltd. has demanded rate in Construction of Power House of Shirkhinda SHP for the following vide their letter under reference.

1)	PCC Work in mud mat	-	M10	Rs.	2163.63/M ³
2)	RCC Work	-	M 25	Rs.	5589.11/M ³

The above items of work is being done as per approved drawing of AHEC, Rookee and the rate of these items are not included in the agreement under reference.

There is no approved rate in schedule of rates of Govt. of Bihar for RCC M - 25. Regarding payment for the above items, payment is being made on the rate of agreement for RCC M20 in place of RCC M-25 and PCC M 7.5 in place of PCC M10.

The rate has been calculated on the basis of calculation of the above items adopted in the procedure for approval of rates in case of Sabari SHP. i.e. rates mentioned in the agreement for lower grade of concrete plus cost of additional cement.

(Detail Calculation is enclosed). The rate comes as.

'X'	PCC M10 in mud mat	-	Rs.	2163.63/ M ³
	RCC M25	-	Rs.	5589.11/ M ³

Therefore, it is recommended to approve the above rates for construction of Power House at Shirkhinda.

Yours faithfully,

P.N.S.
9/11/06

(P. N. Singh)
Project Manager

Encl:-As above.

Rate Calculation of PCC M-10

Agreemental rate of PCC M 7.5 -		Rs.	2000.00/M ³
<u>Cost difference of Materials</u>			
Cost of Add Cement - 1.06 Bag @ 148.00	=	156.88	✓
Less Cost of Sand - 0.01 M ³ @ 50.00	(-)	0.50	✓
Less Cost of Stone Chips - 0.02 M ³ @ 381.00	(-)	7.62	✓
		<u>148.76</u>	✓
Add contractor's Profit & Overhead		14.87	= 163.63 ✓
Rate recommended	=		2163.63/M ³ ✓✓

Rate Calculation of RCC M - 25

Agreemental rate of RCC M - 20		RS.	5100.00/ M ³
			<u>489.11</u>
		Rs.	5589.11/M ³ ✓✓
<u>Cost of difference of material</u>			
Cost of Add. Cement - 3.169 Bag @ 148.00	=	469.01	✓
Less Cost of Sand - 0.03 M ³ @ 50.00	(-)	1.50	✓
Less Cost of Stone chips 0.06 M ³ @ 381.00	(-)	<u>22.86</u>	✓
		444.65	
Add Contractor's Profit & Overhead		<u>44.46</u>	
		Rs. 489.11	✓
Rate recommended -		Rs. -	5589.11/M ³ ✓

बिहार स्टेट हाइड्रोइलेक्ट्रिक पावर कारपोरेशन लि०,
सोन भवन (द्वितीय तल), वीरचन्द पटेल मार्ग, पटना- 1

पत्रांक : 3335/
 Civil/Misc/14-417/2006

पटना, दिनांक : 24/09/09 / M(Shahabad-2)/P-42

सेवा में,

मे० शाहाबाद इंजीनियर्स प्रा० लि०,
 पाली रोड,
 डेहरी-ऑन-सोन,
 रोहतास - 821 307

फैक्स : 0857-2460894

विषय: श्रीखिण्डा पावर चैनल एवं टेलरेस चैनल के कार्य मद PCC M-15 lining की दर स्वीकृत करने के संबंध में ।

- प्रसंग:
1. एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008.
 2. ए.एच.ई.सी., रुड़की का पत्रांक- AHEC/C-2851015
 3. ए.एच.ई.सी., रुड़की का पत्रांक- AHEC/C-2851014
 4. आपका पत्रांक- SEPL/DHR/47/09-10 दिनांक 02.06.2009.

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संदर्भ में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 को सुलभ सुविधा हेतु नीचे उद्धृत किया जा रहा है :-

पावर चैनल

Item of work	Qty.	Unit	Rate	Amount
Providing PCC (1:3:6) with approved quality of graded stone chip of 20mm and down size and coarse sand of approved quality of lug slab, cross and longitudinal sleepers for lining in canal including mixing cement concrete in mixer vibrating and curing including screening royalty all taxes, carriage of materials etc. will all lifts and leads, removal of shuttering etc. all complete as per specification and direction of Engineer-in-Charge.	40	M ³	4000	1,60,000/-

उपरोक्त कार्य मद से स्पष्ट है कि एकरारनामा के तहत पावर चैनल में लाईनिंग कार्य हेतु M-10 कंक्रीट का ही प्रावधान किया गया था, परन्तु ए.एच.ई.सी., रुड़की द्वारा निर्गत नक्शा संख्या-AHEC/C-2851015 एवं AHEC/C-2851014 में पावर चैनल के अलावे टेलरेस चैनल के लाईनिंग कार्य में भी M-15 में कंक्रीट करने का प्रावधान किया गया।

निगम द्वारा इन नक्शों के अनुमोदनोपरान्त संवेदक द्वारा M-15 कंक्रीट लाईनिंग का दर निर्धारण करने हेतु उनके प्रासंगिक पत्र के द्वारा अनुरोध प्राप्त हुआ। समीक्षोपरान्त यह पाया गया कि एकरारनामा में उल्लेखित M-10 कंक्रीट के दर से संवेदक द्वारा वांछित M-15 कंक्रीट का दर मात्र 12.97 प्रतिशत अधिक है।

उपरोक्त परिप्रेक्ष्य में आलोक में ए.एच.ई.सी., रूडकी से प्राप्त आलेख के आलोक में एकरारनामा के खण्ड-II (Schedule of Prices) के तहत पावर चैनल के लाईनिंग कार्य मद संख्या-3 में निहित M-10 कंक्रीट लाईनिंग को संशोधित करते हुए पावर चैनल एवं टेलरेस चैनल के लाईनिंग में M-15 कंक्रीट लाईनिंग के लिए निम्न दर की स्वीकृति दी जाती है :-

Item of work	Qty.	Unit	Rate	Amount
Providing PCC lining in M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm and down) and coarse sand of approved quality and requisite F.M. in side and bottom portion of the canal in panels with construction joint including cost of form work and its removal, curing, royalty and all other taxes complete job as per specification and direction of Engineer-in-Charge.	448	M ³	4518.60	20,24,332.80

एकरारनामा संख्या-01/असैनिक/2005-06 दिनांक 27.06.2008 को आंशिक रूप से इस हद तक संशोधित समझा जाय।

विश्वासमाजन,

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि— श्री पी० पी० शुक्ला, कार्यपालक अभियंता (असैनिक)/सहायक प्रबंधक (लेखा), सोन नहर जल विद्युत परियोजना, बी०एम०पी० कैम्पस, डिहरी-ऑन-सोन (रोहतास) को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि— श्री पी० एन० सिंह, परियोजना प्रबंधक, चाटिल डैम हाइड्रोइलेक्ट्रिक प्रोजेक्ट, पो०- घोडालिंग, जिला- सरायकेला-खरसौवा, झारखंड को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

फैक्स नं० - 0657-2464882

ईमेल - pradeepnasingh@aiify.com

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: _____/

पटना, दिनांक: _____/

प्रतिलिपि— श्री ए०के०डी०वर्मा, अधीक्षण अभियंता (वि०)/श्री मणि शरण, प्रबंध निदेशक के तकनीकी सचिव, बी०एम०पी०सी०लि०, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह/—

(जवाहर लाल)

मुख्य अभियंता (वि०)

(3)

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ज्ञापांक: _____/ पटना, दिनांक: _____/
प्रतिलिपि- वित्तीय परामर्शी/प्रबंधक (लेखा), बी०एच०पी०सी०लि०, पटना को
सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

स/-

(जवाहर लाल)

मुख्य अभियंता (वि०)

ज्ञापांक: 3335/

पटना, दिनांक: 24/09/09 /

प्रतिलिपि- प्रबंध निदेशक, बी०एच०पी०सी०, पटना को कृपया सूचनार्थ समर्पित।

जवाहर लाल
24/9/09

(जवाहर लाल)

मुख्य अभियंता (वि०)

स/-

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STATE HYDROELECTRIC POWER CORPORATION, PATNA

Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna – 800 001.

No. 966
Civil/Misc./14-417/06

Patna, Dated 7-3-08
Civil 14-417 Aump

Speedpost

To,

M/S Shahabad Engineers Pvt. Ltd.
Road No.-17,
Jawahar Nagar, Mango,
Jamshedpur-832 110

Fax NO.-0657-2460694

Sub:- Shirkhinda SHP (2x350Kw) - Extension of time.

- Ref:- (1) Agreement no.01/Civil/05-06 dated-27.06.05
(2) This office letter no.4090 dated.-17.12.07
(3) Your letter no. SEPI/AKS/76/07-08 dated.-21.12.07

Sir,

With reference to the above, you have requested for extension of time completion period /time of Shirkhinda SHP without submitting revised work programme of civil work.

It, is, therefore, requested that the revised/modified work programme for the completion of Shirkhinda SHP should be submitted as early as possible so that time extension can be considered.

It Must be treated as most urgent.

Yours faithfully,

Sd/-
(Shailendra)
S.E. (Civil)

Memo No.- 966 Patna, dated 7-3-08
Copy forwarded to Sri P.N.Singh, Project Manager (Construction) Chandil Dam
HEP, Chandil, P.O.- Ghoralingh, (Kharsawan), Dist:- Saraikela (Jharkhand) for
information & necessary action.

7/3/08
(Shailendra)
S.E. (Civil)

ok

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**BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD,
Sone Bhawan, 2nd Floor, Birchand Patel Marg, Patna-800 001**

No. 4090 /
Civil/Misc/14-41706.

Patna, dated 17-12-07 / CEE/Shirkhinda SHP/2

SPEED POST

To,

M/s. Shahabad Engineers Pvt. Ltd.,
Road No. 17,
Jawahar Nagar, Mango,
Jamshedpur – 832110.

FAX – 0657 - 2460694

Sub:- Shirkhinda SHP (2 x 350 KW) – Extension of time.

**Ref:- (I) Agreement no. 01/Civil/05-06 dated 27.6.05.
(II) Your letter no. SEPL/DHR/75/07-08 dated 13.10.07.**

Sir,

Kindly recall the above regarding extension of time for completion of our Shirkhinda SHP.

It may kindly be noted that you have applied for the time extension, without indicating the time/date for the same. As per the schedule, prepared by AHEC, Roorkee, the Shirkhinda SHP is supposed to be commissioned by Dec., 07. •

It is, therefore, requested that the modified actual work programme for the completion of Shirkhinda SHP be submitted immediately and accordingly a date may be mentioned so that time extension can be considered.

Yours faithfully,

Sd/-

(Jawahar Lall)

Chief Engineer (Elect.)

dated 17-12-07 /

Memo no. 4090 /

Copy forwarded to Sri P.N. Singh, Project Manager, Chandil Dam HEP, Chandil, PO.-
Ghoraling, Kharsawan, West Singhbhum (Jharkhand) for information and necessary action.

[Signature]
(Jawahar Lall)
Chief Engineer (Elect)

A/C

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BIHAR STATE HYDROELECTRIC POWER CORPORATION LTD.

SONE BHAWAN (2ND FLOOR), BIRCHAND PATEL MARG, PATNA-800 001

Shirkhinda time/1

No. 1967
Adm/EW/12-443/2004-05

Patna, the 22/9/11

Seepd Post.

From,
Mani Sharan,
Chief Engineer (I/C)

To,
M/s. H P. P. Energy (India) Pvt. Ltd.,
G - 21, Sector -63,
Noida - 201 301.

Fax No.: 0120/4699199

Sub: **Extension of Completion Period of Shirkhinda SHP (2 x 350 KW).**

Ref: (i) This office Agreement no. 01/Elect/2005-06 dated 06.06.2005.
(ii) This office letter no.3144 dated 25.08.2004.
(iii) Your letter no.HPP/BHPC/114/2011-12/04/418 dated 23.03.2011.

Sir,
Kindly refer to the above

Your request for extension of completion period of Shirkhinda SHP has been examined.

As per provision contained in clause no.4 of the contract agreement, the completion period of Shirkhinda SHP (2 x 350 KW) is further extended upto Sept.' 2010. The completion period as specified in clause no.4 of the contract agreement is modified to this extent.

The other terms & conditions of the contract agreement under reference will remain the same.

Yours faithfully,

Sd/-

(Mani Sharan)

Chief Engineer (I/C)

Memo No. _____/

Patna, the _____/

Copy forwarded to Sri V.K. Dubey, Project Incharge, Sone Western Link Canal H.E. Project, Dehri-on-Sone (Rohtas) for information and necessary action.

Sd/-

(Mani Sharan)

Chief Engineer (I/C)

Memo No. _____/

Patna, the _____/

Copy forwarded to Manager (A/cs), B.H.P.C. Ltd., Patna for information and necessary action.

Sd/-

(Mani Sharan)

Chief Engineer (I/C)

Memo No. 1969 /

Patna, the 22/9/11

Copy submitted to Managing Director, B.H.P.C. Ltd., Patna for kind information.

Mani Sharan
(Mani Sharan) 22.9.11

Chief Engineer (I/C)

R. Singh

oll

बिहार सरकार,
ऊँची विभाग ।

पत्रांक-प्र2/ज.वि.नि. 8/03-

पटना, दिनांक:

सेवा में,

अनौपचारिक
रूप से
परामर्शित ।

महालेखाकार, बिहार,
वीरचन्द्र पटेल पथ, पटना

द्वारा: वित्त विभाग



विषय: बिहार राज्य जल विद्युत निगम के नियंत्रणाधीन 17 लघु जल विद्युत परियोजनाओं के लिए आर.आई.डी.एफ. VIII (नाबार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत वित्तीय वर्ष 2006-2007 में 498.00 लाख रुपये (चार करोड़ अठानावे लाख) की निकासी के संबंध में ।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम पटना के नियंत्रणाधीन 17 लघु जल विद्युत परियोजनाओं यथा रोजपुरा, डेहरा, सिपाहा, बेलरार, बलिदाद, अरवल, त्रिवेणी, डेलाबाग, नारायणगंज, पहरामा, रोवाशी, जयनगरा, अमेठी, रामपुर, नटवार, श्रीखण्डा एवं राजापुर को पूरा करने हेतु नाबार्ड के ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण के मद में पत्रांक 04 दिनांक 18.01.2004 द्वारा स्वीकृत किया गया है ।

2. इन सतरह परियोजनाओं को पूरा करने के लिए राज्यादेश सं० 05 दिनांक 18.01.2004 के द्वारा नाबार्ड आर.आई.डी.एफ. (नाबार्ड) के तहत वित्तीय वर्ष 2003-2004 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-2004 में नाबार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-2004 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई है ।

3. पुनः वित्तीय वर्ष 2004-2005 में नाबार्ड द्वारा विमुक्त 301.00 लाख रुपये एवं वर्ष 2003-2004 का शेष 1.00 (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश सं० 128 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष

1677/MD
1/11/04

महाशय
6.6.04

4. पुनः वित्तीय वर्ष 2005-2006 में नाबार्ड द्वारा 498.00 लाख रुपये विमुक्त किया गया है। इसकी निकासी वित्तीय वर्ष 2005-2006 में नहीं की गई है। अतः नाबार्ड द्वारा विमुक्त 498.00 (चार सौ अठानवे लाख) रुपये की स्वीकृति बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2006-2007 में निम्नांकित शर्तों के आधार पर दी जाती है:-

(क) योजना की प्राक्कलित राशि के 90% (नब्बे प्रतिशत) तक ही ऋण स्वीकृत किया जायेगा।

(ख) इन योजनाओं में 01 अप्रैल, 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जायेगा।

(ग) इस ऋण के लिए 6.50 प्रतिशत वार्षिक दर से ब्याज नाबार्ड को देय होगा।

(घ) इस ऋण का भुगतान 7 (सात) वर्ष में करना है जिसमें दो वर्ष ग्रेस पीरियड सम्मिलित है।

(ङ) इस ऋण के राज्य सरकार के वित्त विभाग को मैनडेट आदि के लिए नोडल विभाग माना जायेगा।

5. नाबार्ड द्वारा दिये गये आर.आई.डी.एफ. VIII योजनान्तर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम पटना विद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. वित्तीय वर्ष 2006-2007 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम पटना को ऋण के प्राक्कलित राशि के विरुद्ध 498.00 लाख रुपये की निकासी बजट शीर्ष-6801-बिजली परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनबिजली उत्पादन-0105-बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड) मांग सं0-10-विपत्र कोड सं0-पी. 6801002010105 के अन्तर्गत किया जायेगा।

7. इस राशि की निकासी मुख्य अभियंता के सचिव (प्रावैधिक) ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम को प्रदान किया जायेगा ।

वित्त विभाग के परिपत्र १.०- एफ-४-३८८१ दिनांक ०७.०७.१९८९ के अनुरूप पुराने बकाए एवं सूद का २५ प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है ।

अतः अनुरोध है कि ४९८.०० (चार करोड़ अठानवे लाख) रुपये का प्राधिकार पत्र निर्गत करने की कृपा की जाय ।

राज्यपाल के आदेश से,

ह०/-

सरकार के अपर सचिव
ऊर्जा विभाग

पटना, दिनांक-

ज्ञापांक-

प्रतिलिपि-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

ह०/-

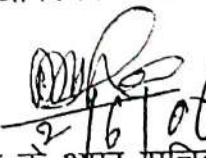
सरकार के अपर सचिव
ऊर्जा विभाग

पटना, दिनांक- ३/६/८६

ज्ञापांक- २०७०

प्रतिलिपि-वित्त विभाग, आय व्यय शाखा/वित्त विभाग डाटा कोषांग/प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम, पटना/निबंधक, ऊर्जा विभाग/मुख्य विद्युत अभियंता के सचिव (प्रा०), ऊर्जा विभाग, पटना/लेखा शाखा (तीन प्रतियों में), ऊर्जा विभाग/योजना बजट के प्रभारी सहायक को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।




सरकार के अपर सचिव
ऊर्जा विभाग

बिहार सरकार,
ऊर्जा विभाग।

पत्रांक -

प्र0-2/ज0वि0नि0-8/03

दिनांक -

सेवा में,

रूप से

महालेखाकार, बिहार,
बीरचन्द पटेल मार्ग, पटना।

द्वारा :

वित्त विभाग,
बिहार, पटना।

विषय:-

बिहार राज्य जल विद्युत निगम लि०, पटना के नियंत्रणाधीन 17 (सत्रह) लघु जल विद्युत परियोजनाओं के लिए आर०आई०डी०एफ०-VIII (नाबार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत वित्तीय वर्ष 2006-07 में 493.00 लाख (चार करोड़ तेरानवे लाख) रुपये की निकासी के संबंध में।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि० के नियंत्रणाधीन 17 (सत्रह) जल विद्युत परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, वलीदाद, अरवल, त्रिवेणी, ढेलाबाग, पहरामा, नासरीगंज, जयनगरा, सिरखिण्डा, अमेठी, रामपुर, नटवार, राजापुर एवं सेवारी को पूरा करने हेतु नाबार्ड के ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण के मद में पत्रांक 04 दिनांक 16.01.2004 द्वारा स्वीकृत किया गया है।

2. इन सत्रह (17) परियोजनाओं को पूरा करने के लिए राज्यादेश सं०- 5 दिनांक 16.01.2004 के द्वारा आर०आई०डी०एफ० (नाबार्ड) के तहत वित्तीय वर्ष 2003-04 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-04 में नाबार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-04 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई है।

3. पुनः वित्तीय वर्ष 2004-05 में नाबार्ड द्वारा विमुक्त 301.00 लाख रुपये एवं वर्ष 2003-04 का शेष 1.00 लाख (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश सं०-126 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वित्तीय वर्ष 2005-06 में नाबार्ड द्वारा 498.00 लाख रुपये विमुक्त किया गया उसे राज्यादेश सं०-2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया।

4. वित्तीय वर्ष 2006-07 में नाबार्ड द्वारा 493.00 लाख रुपये विमुक्त किया गया है। अतः नाबार्ड द्वारा विमुक्त 493.00 लाख (चार करोड़ तेरानवे लाख) रुपये की स्वीकृति बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2006-07 में निम्नांकित शर्तों के आधार पर दी जाती है :-

(क) योजना की प्राक्कलित राशि के 90% (नब्बे प्रतिशत) तक ही ऋण स्वीकृत किया जाएगा।

(ख) इन परियोजनाओं में 01 अप्रैल, 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जाएगा।

(ग) इस ऋण के लिए 6.50% (साढ़े छः प्रतिशत) वार्षिक ब्याज होगा।

(घ) इस ऋण का भुगतान 7 (सात) वर्षों में करना है जिसमें, दो वर्ष प्रारंभिक समितित हैं।

(ङ) इस ऋण के लिये राज्य सरकार व वित्त विभाग को मैनडेट आदि के नोडल विभाग माना जाएगा।

5. नाबार्ड द्वारा दिये गये आर0आई0डी0एफ0-VIII योजनान्तर्गत ऋण की म बिहार राज्य जल विद्युत निगम, पटना पिद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. - वित्तीय वर्ष 2006-07 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम, को ऋण के प्रावधानित राशि के विरुद्ध 493.00 लाख रुपये की निकासी बजट 6801-बिजली परियोजनाओं के लिए कर्जा-राज्य योजना-201-पनाबिजली पाटन 01 बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड) मांग संख्या 10 विपन कोड र पी.-6801002010105 के अन्तर्गत विकलनीय होगा।

7. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट माध्यम से बिहार राज्य जल विद्युत निगम, पटना को भुगतान किया जाएगा।

अतः अनुरोध है कि 493.00 लाख (चार करोड़ तेरानबे लाख) रुपये प्राधिकार पत्र निर्गत करने की कृपा की जाय।

बिहार राज्यपाल के आदेश से

ह0/-

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

ज्ञापांक - _____/

प्रतिलिपि कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

दिनांक - _____

ह0/-

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

ज्ञापांक - 1333/

दिनांक - 20/3/07

प्रतिलिपि वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग/प्रबन्ध निदेशक, बिहार राज्य जल विद्युत निगम लि0, पटना/उप सचिव, ऊर्जा विभाग/मुख्य विद्युत अभियन्ता के सचिव (प्रावै0), ऊर्जा विभाग, पटना/लेखा शाखा (तीन प्रतियों में, ऊर्जा विभाग, पटना/योजना बजट शाखा के प्रभारी सहायक, ऊर्जा विभाग को सूचना एवं आवश्यक कार्रवाई हेतु प्रेषित।

सरकार के अपर सचिव,
ऊर्जा विभाग, बिहार, पटना।

27/3/07



बिहार सरकार
ऊर्जा विभाग

पत्रांक प्र-2/ज0वि0नि-8/03
सेवा में,

पटना, दिनांक

महालेखाकार, बिहार,
बीरचंद पटेल पथ,
पटना-1.

द्वारा:- वित्त विभाग,
बिहार, पटना

नौपचारिक रूप
परामर्शित।

विषय:- वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम के नियंत्रणाधीन 17 (सतरह)

लघु जल विद्युत परियोजनाओं के लिए आर0आई0डी0एफ0 VIII (नावार्ड) के अन्तर्गत 6015.02 लाख रुपये के स्वीकृत ऋण के अन्तर्गत 123.00 लाख (एक करोड़ तेईस लाख) रुपये की निकासी के संबंध में।

महोदय,

निर्देशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम, पटना के नियंत्रणाधीन 17 (सतरह) लघु जल विद्युत परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, बलिदाद, अखिल, निवेणी, इलाहाबाद, नासरीगंज, पहगागा, सेवारी, जयनगर, अमंडी, रामपुर, नटवार, श्रीखिन्डा एवं राजापुर को पूरा करने हेतु नवार्ड की ऋण की शर्तों के आधार पर 6015.02 लाख रुपये ऋण मद में पत्रांक 04 दिनांक 16.01.04 द्वारा स्वीकृत किया गया है।

2. इन 17 परियोजनाओं को पूरा करने के लिए राज्यादेश संख्या- 05 दिनांक 16.01.2004 द्वारा आर0आई0डी0एफ0 (नवार्ड के तहत) वित्तीय वर्ष 2003-04 में 6015.02 लाख रुपये ऋण की स्वीकृति तथा वर्ष 2003-04 में नवार्ड द्वारा विमुक्त 2339.00 लाख रुपये के विरुद्ध वित्तीय वर्ष 2003-04 में 2338.00 लाख रुपये की निकासी कर उसे बिहार राज्य जल विद्युत निगम को उपलब्ध करा दी गई।

3. पुनः वित्तीय वर्ष 2004-05 में नवार्ड द्वारा विमुक्त 302.00 लाख रुपये एवं वर्ष 2003-04 का शेष 1.00 लाख (एक लाख) रुपये यानि 302.00 लाख रुपये राज्यादेश संख्या 126 दिनांक 31.03.2005 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वित्तीय वर्ष 2005-06 में नवार्ड द्वारा विमुक्त 498.00 लाख रुपये राज्यादेश सं0 2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया। वित्तीय वर्ष 2006-07 में नवार्ड द्वारा विमुक्त 493.00 लाख रुपये राज्यादेश सं0 1333 दिनांक 20.03.07 द्वारा बिहार राज्य जल विद्युत निगम को स्वीकृत किया गया।

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4. पुनः वित्तीय वर्ष 2006-07 में नाबार्ड द्वारा दिनांक 29.03.07 को 123.00 लाख (करोड़ तेईस लाख) रुपये विमुक्त किया गया है। इसकी निकासी वित्तीय वर्ष 2006-07 में की गई। अतः नाबार्ड द्वारा विमुक्त 123.00 लाख रुपये की स्वीकृति बिहार राज्य जल निगम को वित्तीय वर्ष 2007-08 में निम्नांकित शर्तों के आधार पर दी जाती है।
(क) योजना की प्राक्कलित राशि के नब्बे प्रतिशत तक ही ऋण स्वीकृत किया जाय।
(ख) इन योजनाओं में 1 अप्रैल 2002 के बाद किये गये व्यय की प्रतिपूर्ति ऋण के रूप में दिया जायगा।

(ग) इस ऋण के लिए 6.50 प्रतिशत वार्षिक दर से व्याज नाबार्ड को देय होगा।
(घ) इस ऋण का भुगतान सात वर्षों में करना है जिसमें से दो वर्ष ग्रेस पीरियड सम्मिलित है।
(ङ) इस ऋण के लिए राज्य सरकार के वित्त विभाग को मेनडेट आदि के लिए नोडल विभाग माना जायगा।

5. नाबार्ड द्वारा दिये गये आर0आई0डी0एफ0 VIII योजना अंतर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम, पटना विद्युत आपूर्ति से प्राप्त राजस्व से करेगा।

6. वित्तीय वर्ष 2007-08 में नाबार्ड के तहत बिहार राज्य जल विद्युत निगम, पटना को त्रिकोणीय प्रावधानित राशि के विरुद्ध 123.00 लाख रुपये की निकासी दजट शीर्ष 6801- बिजली परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनबिजली-उत्पादन-0105- बिहार राज्य जल विद्युत निगम को ऋण(नाबार्ड)-मांग संख्या-10 विपत्र कोड संख्या-पी0 6801002010105 के अन्तर्गत विकलनीय होगा।

7. इस राशि की निकासी मुख्य विद्युत अभियंता के सचिव(प्रावैधिक) ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम, पटना को भुगतान किया जायगा।

अतः अनुरोध है कि 123.00 लाख (करोड़ तेईस लाख) रुपये का प्राधिकार पत्र निर्गत करने की कृपा की जाय।



बिहार राज्यपाल के आदेश से

ह0/-

सरकार के अपर सचिव

ऊर्जा विभाग, बिहार पटना।

123
11 JAN 2008

बिहार सरकार
ऊर्जा विभाग

पटना, दिनांक-

प्र-2/ज०वि०नि०-8/03

अनुपचारिक
प्रमाणित

द्वारा,

महालेखाकार, बिहार
वीरचंद पटेल पथ,
पटना।

वित्त विभाग,

बिहार, पटना।

विषय:-

वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम पटना के नियंत्रणाधीन 17 (सतरह) लघु जल विद्युत परियोजनाओं के लिए आर०आई०डी०एफ० VIII (नावार्ड) के अन्तर्गत 6015.02 लाख के स्वीकृत ऋण के अन्तर्गत रु० 2,74,00 लाख (दो करोड़ चौहत्तर लाख रुपये मात्र) की निकासी के लिए।

महाशय,

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार जल विद्युत निगम लि०, पटना के नियंत्रणाधीन 17(सतरह) लघु जल विद्युत परियोजनाओं यथा तेजपुरा, डेहरा, सिपाहा, बेलसार, बलिदाद, अरवल, देलावाग, नासरीगंज, पहरामा, सेवारी, जयनगरा, अमेठी, रामपुर, धाखिण्डा एवं राजापुर को पूरा करने हेतु नवार्ड को ऋण की शर्तों के पर रु० 6015.02 लाख ऋण मद में पत्रांक 04 दिनांक 16.01.04 स्वीकृत किया गया है।

2. इन 17 परियोजनाओं को पूरा करने के लिए राज्यदेश सं० दिनांक 16.01.04 द्वारा आर० आई० डी० एफ० (नवार्ड के तहत) वर्ष 2003-04 में रु० 6015.02 लाख ऋण की स्वीकृति तथा वर्ष 2 में नवार्ड द्वारा विमुक्त रु० 2339.00 लाख के विरुद्ध वित्तीय वर्ष 2 में रु० 2338.00 लाख की निकासी कर उसे बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध करा दी गई।

3. पुनः वित्तीय वर्ष 2004-05 में नवार्ड द्वारा विमुक्त रु० 302.00 लाख एवं वर्ष 2003-04 का शेष रु० 1.00 लाख (एक लाख) रु० 302.00 लाख राज्यदेश सं० 126 दिनांक 31.03.05 द्वारा बिहार राज्य जल विद्युत निगम को वित्तीय वर्ष 2004-05 में स्वीकृत किया गया। पुनः वर्ष 2005-06 में नवार्ड द्वारा विमुक्त रु० 498.00 लाख राज्यदेश सं० 2070 दिनांक 03.06.2006 द्वारा वित्तीय वर्ष 2006-07 में बिहार राज्य जल विद्युत निगम लि०, पटना को स्वीकृत किया गया। वित्तीय वर्ष 2007-08 में नवार्ड द्वारा विमुक्त रु० 493.00 लाख राज्यदेश संख्या 1333 दिनांक 16.01.08

03.07 द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना को

गया।

4. पुनः वित्तीय वर्ष 2006-07 में नावार्ड द्वारा विमुक्त
लाख राज्यादेश संख्या 3211 दिनांक 16.07.07 द्वारा वित्तीय वर्ष
में बिहार राज्य जल विद्युत निगम लि०, पटना को स्वीकृत किया गया।

5. वित्तीय वर्ष 2007-08 में नावार्ड द्वारा दिनांक 07.08.20
रु० 2,74,00,000 (दो लाख चौदह लाख रुपए मात्र) विमुक्त किया गया
अतः नावार्ड द्वारा विमुक्त रु० 2,74,00,000 लाख की स्वीकृत बिहार
जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2007-08 में निम्नांकित
के आधार पर दी जाती है।

(क) योजना की प्राक्कलित राशि के नव्वे प्रतिशत तक ही ऋण र
किया जाए।

(ख) इन परियोजनाओं में 1 अप्रैल 2002 के बाद किए गए व्यय
प्रतिपूर्त ऋण के रूप में दिया जाएगा।

(ग) इस ऋण के लिए 6.5 प्रतिशत वार्षिक दर से व्याज नावार्ड
देय होगा।

(घ) इस ऋण का भुगतान सात वर्षों में करना है जिसमें दो वर्ष
पीरियड सम्मिलित है।

(ङ) इस ऋण के लिए राज्य सरकार से वित्त विभाग को भेनडेट उ
के लिए नोडल विभाग माना जाएगा।

6. नावार्ड द्वारा दिए गए आर० आई० डी० एफ० VIII योजना
अन्तर्गत ऋण की भरपाई बिहार राज्य जल विद्युत निगम लि०, पटना विद्
आपूर्ति से प्राप्त राजस्व से करेगा।

7. वित्तीय वर्ष 2007-08 में नावार्ड के तहत बिहार राज्य जल विद्
निगम लि०, पटना को ऋण के प्राक्कलित राशि के विरुद्ध रु० 274.00 ला
(दो करोड़ चौदह लाख रुपए मात्र) की निकासी वजेट शीर्ष 6801-विजल
परियोजनाओं के लिए कर्ज-राज्य योजना-201-पनविजली उत्पादन-0105-बिहा
राज्य जल विद्युत निगम लि०, पटना को क्र० (नावार्ड)- मांग संख्या-10-विप
कोड संख्या 6801002010105 के अन्तर्गत विकलनीय है।

8. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव(प्रावैधिक),
ऊर्जा विभाग के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर बैंकर्स
चेक/बैंक ड्राफ्ट के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को
भुगतान किया जाएगा।

9. वित्त विभाग के परिपत्र संख्या 7355 दिनांक 05.10.07 के
अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।

बिहार राज्यपाल के आदेश से,

ह०/-

सरकार के अपर सचिव
ऊर्जा विभाग, बिहार, पटना।

पत्रांक-प्र-2/ज०वि०नि०-08/03
सेवा में,

पटना, दिनांक-

मुख्य विद्युत अभियन्ता के सचिव(प्रावैधिक),
ऊर्जा विभाग, बिहार, पटना।

विषय:- वित्तीय वर्ष 2007-08 में बिहार राज्य जल विद्युत निगम लि०,
पटना को रु० 11,03,000,00/- (ग्यारह करोड़ तीन लाख रुपए)
मात्र के आवंटन की स्वीकृति के संबंध में।

महाशय,

उपर्युक्त विषय के प्रसंग में ऊर्जा विभाग के राज्यादेश संख्या-1283
दिनांक- 14.03.08 के आलोक में वित्तीय वर्ष 2007-08 में बिहार राज्य जल
विद्युत निगम लि०, पटना को नाबार्ड द्वारा स्वीकृत रु० 11,03,000,00/-
(ग्यारह करोड़ तीन लाख रुपए) मात्र का आवंटन स्वीकृत एवं विमुक्त किया
जाता है।

2. यह राशि बजट शीर्ष 6801-विजली परियोजनाओं के लिए कर्ज-राज्य
योजना-201-पनविजली उत्पादन-0105-बिहार राज्य जल विद्युत निगम को
ऋण(नाबार्ड) मांग संख्या-10-विपत्र कोड संख्या पी०-6801002010105 के तहत
वित्तीय वर्ष 2007-08 में उपबंधित राशि के अन्तर्गत विकलनीय होगा।

3. इस राशि की निकासी सचिवालय कोषागार, सिंचाई भवन, पटना से
की जाएगी।

4. यह आवंटन वित्त विभाग के पत्रांक 2561 दिनांक 17.04.1998 के
आलोक में निर्गत किया जाता है तथा निकासी एवं व्ययन पदाधिकारी से
अनुरोध है कि राशि की निकासी के पूर्व सभी प्रक्रियाओं का अनुपालन
सुनिश्चित करने के बाद ही राशि की निकासी करेंगे। यह राशि इस मद में
कुल उपबंधित राशि के अधीन है।

5. आवंटित राशि के निकासी के पूर्व संबंधित विपत्र पर निकासी एवं
व्ययन पदाधिकारी आवंटन आदेश की संख्या एवं तिथि के साथ-साथ संबंधित
इकाई के कोड संख्या का भी उल्लेख करेंगे तथा विपत्र पर चिन्हित राशि
उपबंध के अन्तर्गत होने का प्रमाण पत्र अंकित करेंगे।

6. निकासी एवं व्ययन पदाधिकारी किसी भी परिस्थिति में आवंटित राशि
से अधिक की निकासी नहीं करेंगे। इस राशि का भुगतान बैंक ड्राफ्ट/बैंकर्स
चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया
जाएगा।

विश्वासभाजन,

ह०/-

(राजेश गुप्ता)
सरकार के सचिव
ऊर्जा विभाग

प्रष्क,

आयुक्त एवं सचिव,
उर्जा विभाग, बिहार ।

श्रीवा में,

मुख्य बिद्युत अभियन्ता के सचिव (PTO)
उर्जा विभाग, बिहार, पटना ।

विषय: वित्तीय वर्ष 2005-2006 में बिहार राज्य जल विद्युत
निगम को 345.24 लाख (तीन करोड़ पैंतालिस लाख
चौबीस हजार 800 आबंटन के संबंध में ।

महोदय,

उपर्युक्त विषयक उर्जा विभाग के राज्यादेश सं0-08 दिनांक
16.01.06 के आलोक में वित्तीय वर्ष 2005-06 में बिहार राज्य जल
विद्युत निगम लि0, पटना को राज्यादेश के तम में राज्य योजना से ऋण
के तम में 345.24 लाख (तीन करोड़ पैंतालीस लाख चौबीस हजार 800 रुपये
मात्र का आबंटन स्वीकृत एवं बिभुस्त किया जाता है ।

2. यह राशि बजट शीर्ष- 6801 - बिजली परियोजनाओं के लि:
कर्म-राज्य योजना-800-बिद्युत बोर्डों के लिए अन्य कर्म-0104 -बिहार
राज्य जल विद्युत निगम को ऋण-मार्ग सं0-10 -विपत्र कोड संख्या-पी.
6801008000104 के अंतर्गत वित्तीय वर्ष 2005-2006 में उपबंधित
राशि से विकल्पनीय होगा ।

3. इस राशि की निकासी सचिवालय कोषागार, सिंचाई भवन
पटना से की जायेगी ।

4. यह आबंटन वित्त विभाग के पत्रांक-2561 दिनांक 17.04
1998 के आलोक में निरित किया जाता है तथा निकासी एवं हययन
पदाधिकारी से अनुरोध है कि राशि की निकासी के पूर्व सारी
प्रक्रियाओं का अनुम लन सुनिश्चित करने के बाव ही राशि की निकास
करेंगे । यह राशि इस मध में कुल उपबंधित राशि के अधीन है ।

5. आवंटि । राशि की निकासी के पूर्व संबंधित विपत्र पर
निकासी एवं हययन पदाधिकारी प्रसंगाधीन आवंटन आदेश की संख्या
एवं तिथि के साथ-साथ संबंधित इकाई के कोड संख्या- का भी उल्लेख
करेंगे तथा विपत्र पर चिन्हित राशि उपबंध के अन्तर्गत होने का
प्रमाण-पत्र भी अंकित करेंगे ।

6. निकासी एवं हययन पदाधिकारी किसी भी परिस्थिति
में आवंटित राशि से अधिक की निकासी नहीं करेंगे ।

इस राशि का मुग्तान है। हाफ्ट / थर्कस चैक के माध्यम से बिहार राज्य जल विद्युत निगम लि० को किया जाएगा।

विभागाध्यक्ष

ह०/-

आयुक्त एवं सचिव,
उर्जा विभाग।

ड्राफ्ट- प्र२/ज०वि०नि०-०८/०४-

पटना, दिनांक

प्रतिलिपि- कोषागार पदाधिकारी, सचिवालय कोषागार
सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कारवाई हेतु प्रेषित।

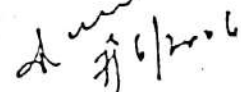
ह०/-

आयुक्त एवं सचिव,
उर्जा विभाग।

ड्राफ्ट- प्र२/ज०वि०नि०-०८/०४- ६२

पटना, दिनांक ७/३/०६

प्रतिलिपि- अध्यक्ष सह-प्रबन्ध निदेशक, बिहार राज्य जल विद्युत निगम लि० पटना को सूचनार्थ एवं नियमानुसार त्वरित कारवाई हेतु प्रेषित।



आयुक्त एवं सचिव,
उर्जा विभाग।

क्रमांक: 82/आ.वि.वि.0-8/03-

पटना, दिनांक

प्रति,

महाविद्यालय,
बिहार, पटना।

धारा 4 विस्तार विभाग,

विषय: बिहार राज्य का विद्युत निगम लि. पटना को
निर्माणधीन 17 [सतह] का विद्युत परियोजनाओं को
पूरा करने के लिए राज्य योजना के रा. बांग के तहत
500 लाख [5 करोड़] रुपये की मिलाई की स्वीकृति।

महोदय,

उपरोक्त विषय के प्रसंग में निदेशांक 10-8/03-82 बिहार
राज्य का विद्युत निगम लि. के निर्माणधीन 17 [सतह] का विद्युत
परियोजनाओं का गेजरा, केरा, मिठा, केला, बालिया, अरक,
मिर्जा, केला, पुराना, मासरी, जयपुर, बाँध, अमर, रायपुर,
मन्दा, राजापुर एवं गेजरा की पूरा करने हेतु 9076.00 लाख रुपये
की कुल अनुमान पर योजना की स्वीकृति मंत्रालय की दिनांक 4.11.
2003 की बैठक में प्रदान की गई। निदेशांक में बताया गया कि
आई.टी.एफ. - 1/111 के तहत 6015.02 लाख रुपये की स्वीकृति
आई.आई.टी.एफ. - 1/111 की कृपया गतों के आधार पर की गई।
मंत्रालय द्वारा यह भी निर्णय लिया गया कि बिहार राज्य का
विद्युत निगम लि. अपने आंतरिक प्रोत्तों से अबतक की की गई राशि
रकम 210 लाख तथा आगे रकम 233 लाख का घटम होगा तथा इस
राशि का घटम राज्य योजना के तहत किया जाएगा। मंत्रालय के उक्त
निर्णय के आशोक में इस विभाग के एम्पावर 10-8 दिनांक 14.1.2004
द्वारा राज्याभि के तहत 2620.64 लाख रुपये की स्वीकृति की गई एवं
इसमें से इस वित्तीय वर्ष में 345.24 लाख रुपये की मिलाई की
स्वीकृति की गई है।

2. पुनः बिहार राज्य का विद्युत निगम को इन परियोजनाओं
को पूरा करने हेतु इस वित्तीय वर्ष में राज्य योजना से 500 लाख
[पाँच करोड़] रुपये की रकम में स्वीकृति किया जाता है।

3. बिहार विभाग के पत्रांक 10-8/03-82 दिनांक 7.7.
1999 के अनुसार पुराने बजट में जो 25 प्रतिशत की कटौति
बिहार राज्य का विद्युत निगम, पटना को वित्तीय स्थिति को देखी
हुए की जाने की प्रस्ताव की जाती है।

4. इस की प्रत्येक गतों निम्नलिखित होगी :-

[क] इस का पुनर्गठन एवं इस का गुणवत्ता 10 [दस] लाख
वर्षों के लिए होगा। इसकी पहली किस्त की अवधि 10 [दस] वर्षों
की तिथि से एक साल बाद से प्रारम्भ होगी।

100 10-...

[क]

इस राशि पर 13 प्रतिशत की दर से नार्मल ब्याज देय होगा।

[ख]

समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से ब्याज देय होगा।

[ग]

समय पर भुगतान करने पर ब्याज दर में 1/4 [चौपाई] प्रतिशत छूट होगी।

5

इस राशि की भिन्नाती बजट सीरीज-4801 दिनांक पारितोषमाओं के लिए बजेट-राज्य योजना -201-वर्षावधि उत्पादन-0105-विहार राज्य का विद्युत निगम को बजट [मामाई] मार्ग सी0-10-विषय कोड सी0-सी. 4801002010105 के अन्तर्गत वित्तीय वर्ष 2005-006 में विद्यमान होगा।

6

इस राशि की भिन्नाती मुख्य विद्युत अभियन्ता के सचिव [प्र] उर्जा विभाग के द्वारा सचिवालय कोषागार, तिहार मदन, पटना से कर रहे हैं। वे वेस्ट बैंक/वेस्ट ब्राफ्ट के माध्यम से विहार राज्य का विद्युत निगम को भुगतान किया जाएगा।

उक्त: अप्रतिप है कि 300 मात्र [पॉथ] करोड़। समये का प्राधिकार वम भित्ति करने की पूर्ण करें।

विहार राज्य का के आदेश से ,
हस्ताक्षर

सरकार के उपसचिव,
उर्जा विभाग।

आपांक- प्र2/ज0वि0नि0-8/03--

प्रतिनिधि- कोषागार पदाधिकारी, सचिवालय कोषागार, तिहार मदन, पटना को सूचनाएं एवं आवश्यक कारवाई हेतु प्रेषित।

हस्ताक्षर-

सरकार के उपसचिव,
उर्जा विभाग।

आपांक- प्र2/ज0वि0नि0-8/03- 63

पटना, दिनांक 13/3/06

प्रतिनिधि- विस्तार विभाग, अर्थ-व्यय शाखा / विस्तार विभाग, डाटा कोषागार / प्रयोजन निदेश, विहार राज्य का विद्युत निगम, पटना / मुख्य, उर्जा विभाग / मुख्य विद्युत अभियन्ता के सचिव [प्र] उर्जा विभाग, विहार, पटना/सिद्धा शाखा/तीन प्रतिशत में [उर्जा विभाग, पटना/योजना, बजट के प्रभावी सहायक को सूचनाएं एवं आवश्यक कारवाई हेतु प्रेषित।

N.Ram
15/3/06

सरकार के उपसचिव,
उर्जा विभाग।



वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परामर्शित।

पत्रांक - प्र02/ज0वि0नि0बा0न0-14/03 (खण्ड-II)

पटना, दिनांक -

सेवा में,

महालेखाकार (लेखा एवं हक),

बिहार, वीरचन्द पटेल मार्ग, पटना।

विषय:-

बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की स्वीकृत योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2014-15 में 10.00 करोड़ (दस करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश:

स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होलिडिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये की स्वीकृति वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1710 दिनांक 22.03.2013 द्वारा दी गयी थी। वित्तीय वर्ष 2012-13 में 1.00 करोड़ रुपये एवं वित्तीय वर्ष 2013-14 में राज्यादेश संख्या-996 दिनांक 12.03.2014 द्वारा स्वीकृत 11.00 करोड़ रुपये के विरुद्ध आवंटन संख्या-95 दिनांक 21.03.2014 द्वारा 6.00 करोड़ रुपये विमुक्त किये गये थे। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2013-14 तक कुल 7.00 करोड़ रुपये बिहार राज्य जल विद्युत निगम को उपलब्ध कराया गया है।

2. राज्य सरकार द्वारा बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की स्वीकृत योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2014-15 में 10.00 करोड़ (दस करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

3. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं०-10 विपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत प्रथम अनुपूरक के वित्तीय वर्ष-2014-15 में उपबंधित राशि से विकलनीय होगा।

4. ऋण की शर्तें निम्नवत् होगी

(क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।

(ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।

(ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।

(घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।

(ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

5. इस राशि की निकासी उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

6. बिहार राज्य जल विद्युत निगम लि०, पटना के पक्ष में बैंकर्स चेक के रूप में की जानेवाली निकासी के बदले अब पी०एल० खाता सं०-8448 में की जाएगी।

निकासी की जानेवाली राशि का व्यय 0024 (L8448001200024) एवं प्राप्तियाँ 0024 (K8448001200024) के अन्तर्गत होंगी।

7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।

8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।

9. उक्त योजना की स्वीकृति हेतु सक्षम प्राधिकार मंत्रिपरिषद् का अनुमोदन संचिका संख्या-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II) के पृष्ठ संख्या 62 पर दिनांक 19.03.2013 को प्राप्त है।

10. राज्यादेश में आन्तरिक वित्तीय सलाहकार की सहमति संचिका संख्या-प्र०२/ज०वि०नि० बा०न०-14/०३ (खण्ड-II) के पृष्ठ संख्या-83/टि० पर दिनांक 12.11.2014 को प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

अपर सचिव, ऊर्जा विभाग।

ज्ञापांक-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

अपर सचिव, ऊर्जा विभाग।

ज्ञापांक-प्र०२/ज०वि०नि०बा०न०-14/०३ (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

अपर सचिव, ऊर्जा विभाग।



बिहार सरकार
ऊर्जा विभाग

पत्रांक - प्र02/ज0वि0नि0बा0न0-14/03 (खण्ड-II)

पटना, दिनांक - _____

वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परागर्शित।

सेवा में,

महालेखाकार (लेखा एवं हक),
बिहार, वीरचन्द पटेल मार्ग, पटना।

विषय:-

बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2013-14 में 11.00 करोड़ (ग्यारह करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश: स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होल्टिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये आकलित किये गये हैं।

2. दिनांक 28.02.2013 को प्राधिकृत समिति की हुई बैठक में प्रशासी विभाग के प्रस्ताव पर बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1710 दिनांक 22.03.2013 द्वारा 1.00 (एक) करोड़ रुपये की स्वीकृति प्रदान की गयी थी तथा वित्तीय वर्ष 2013-14 में 11.00 करोड़ रुपये की स्वीकृति दी जानी है।

3. राज्य सरकार द्वारा बाल्मिकिनगर 3 x 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2013-14 में 11.00 करोड़ (ग्यारह करोड़ रुपये) रुपये राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं०-10 विपत्र कोड-पी० 6801002010101 विषय शीर्ष 6801 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2013-14 में उपबंधित राशि के अन्तर्गत किया जाएगा।

5. ऋण की शर्तें निम्नवत् होगी

(क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।

(ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।

(ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।

(घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।

(ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

कृ०पृ०ऊ०

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 710 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
9. वित्त विभाग के यू०ओ०आर० संख्या 422 दिनांक 04.03.2014 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापां ह-प्र०२/ज०वि०नि०बा०न०-14/03 (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापां क-प्र०२/ज०वि०नि०बा०न०-14/03 (खण्ड-II) 996

पटना दिनांक 12/3/14

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

पत्रांक-प्र2/ज0 वि0 नि0-07/12-

सेवा में,

महालेखाकार बिहार,

वीरचन्द पटेल पथ, पटना।



पटना, दिनांक

- (504) -

Shree Arun.

19.3.14

विषय:-बिहार राज्य जल विद्युत निगम लि०, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2013-14 में 9.00 करोड़ (नौ करोड़ रुपये) रुपये ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में राज्यादेश संख्या-1173 दिनांक 28.02.2013 द्वारा रू० 5.00 करोड़ रुपये की स्वीकृति दी गयी थी तथा वित्तीय वर्ष 2013-14 में 9.00 करोड़ रुपये ऋण की स्वीकृति दी जानी है।

2. राज्य सरकार द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रू० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2013-14 में 9.00 करोड़ (नौ करोड़ रुपये) रुपये ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

3.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

कृ०पृ०रू०.....



4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं०-10- निपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2013-14 में उपबंधित राशि के अन्तर्गत किया जाएगा।
5. इस राशि की निकासी उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
6. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
8. वित्त विभाग के यू०ओ०आर० संख्या-476 दिनांक 04.03.2014 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापांक- प्र२/ज० वि० नि०-07/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

ज्ञापांक- प्र२/ज० वि० नि०-07/12- 1018

पटना दिनांक 12/3/14

प्रतिलिपि:-वित्त विभाग, (आय व्यय शाखा)/वित्त विभाग, डाटा कोषांग शाखा/उप सचिव-सह-निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग, पटना/प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के प्रभारी सहायक, ऊर्जा विभाग, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

(कामेश्वर शुक्ला)

संयुक्त सचिव, ऊर्जा विभाग।

बिहार सरकार
ऊर्जा विभाग

पत्रांक:-प्र2/ज0वि0नि0-01/10-

पटना, दिनांक-

शुद्धि-पत्र

ऊर्जा विभाग के निम्नलिखित राज्यादेश/आवटनादेश में राशि की निकासी के संबंध में बैंकर्स चेक के माध्यम से उल्लिखित है :-

क्र०सं०	राज्यादेश का पत्रांक/दिनांक	कंडिका संख्या	आवटनादेश का पत्रांक/दिनांक	कंडिका संख्या	राशि (लाख में)
1	5255/20.11.13	7	48/26.11.13	6	747.37
2	5254/20.11.13	7	47/26.11.13	6	316.45
3	51/30.01.14	7	59/23.01.14	6	390.81
4	52/03.01.14	7	60/23.01.14	6	140.61
5	939/06.03.14	6	82/10.03.14	6	83.59
6	1018/12.03.14	5	87/13.03.14	6	900.00
7	996/12.03.14	6	95/21.03.14	6	600.00

2. उपर्युक्त राज्यादेश/आवटनादेश के द्वारा बिहार राज्य जल विद्युत निगम लि०, पटना के पक्ष में बैंकर्स चेक के रूप में की जानेवाली निकासी के बदले अब पी०एल० खाता सं०-8448 में की जाएगी।

तदनुसार उपर्युक्त उल्लिखित राज्यादेश/आवटनादेश को संशोधित समझा जाए।

3. शेष कंडिका यथावत रहेगा।

ह०/-
संयुक्त सचिव,
ऊर्जा विभाग, बिहार, पटना।

झापांक:- प्र2/ज0वि0नि0-01/10- 12/9

पटना, दिनांक- 27/3/14

प्रतिलिपि:- महालेखाकार, बिहार, पटना/कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

संयुक्त सचिव,
ऊर्जा विभाग, बिहार, पटना।

वित्त विभाग
द्वारा
अनौपचारिक
रूप से
परामर्शित।

सेवा में,

महालेखाकार (लेखा एवं हक),
बिहार, गीरचन्द पटेल मार्ग, पटना।

विषय:- बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान करने के संबंध में।

आदेश: स्वीकृत।

इस परियोजना से वर्तमान में विद्युत उत्पादन उस अवधि में हो पाता है जिस अवधि के लिए नहर में सिंचाई हेतु जल उपलब्ध होता है। साल के 4 महीना इन विद्युत इकाईयों से विद्युत उत्पादन नहीं हो पाता है। इस समस्या के निदान हेतु स्केप चैनल का निर्माण किया जा रहा है ताकि सालों भर विद्युत सयंत्रों से विद्युत उत्पादन हो सके। इस परियोजना से उत्पादित विद्युत बिहार स्टेट पावर (होलिडिंग) कम्पनी लि० को वितरण हेतु दिया जाएगा। इस योजना के कार्यान्वयन हेतु बिहार राज्य जल विद्युत निगम द्वारा परियोजना की कुल लागत 2577.00 लाख रुपये आकलित किये गये हैं।

2. दिनांक 28.02.2013 को प्राधिकृत समिति की हुई बैठक में प्रशासी विभाग के प्रस्ताव पर बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की गई है।

3. राज्य सरकार द्वारा बाल्मिकिनगर 3 X 5 मेगावाट जल विद्युत परियोजना में स्केप चैनल के प्रावधान हेतु 2577.00 लाख रुपये की योजना की स्वीकृति एवं वित्तीय वर्ष 2012-13 में 1.00 (एक) करोड़ राज्य योजना से बिहार राज्य जल विद्युत निगम को ऋण के रूप में भुगतान करने की स्वीकृति प्रदान की जाती है।

4. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 विजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष 00- लघु शीर्ष-201- पन विजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण मांग सं०-10 विपत्र कोड- पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

5. ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदागगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कार्रवाई प्रारम्भ की जा रही है।
9. वित्त विभाग के यू० ओ० आर० संख्या 718 दिनांक 21.03.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

६०/-

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

ज्ञापांक- प्र०२/ज०वि०नि०वा०न०-14/03 (खण्ड-II)

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

६०/-

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

ज्ञापांक- प्र०२/ज०वि०नि०वा०न०-14/03 (खण्ड-II) 17/0

पटना दिनांक 22/3/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

22/3/13

(नागेन्द्र कुमार सिंह)

उप सचिव, ऊर्जा विभाग

प्रबंध निदेशक

जल विभाग
सोनभवन पटना

Rs. 600.00 Lacs

मुख्य अभियन्ता (वि०) कोषाग
प्र.सं. 549
दिनांक 05.03.13

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/ज0 वि0 नि0-10/12-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

146/5/13

विषय:-बिहार राज्य जल विद्युत निगम लि०, पटना को डागमारा (130 मेगावाट) जल विद्युत परियोजना के विस्तृत परियोजना प्रतिवेदन एवं इससे संबंधित अन्य कार्य हेतु रू० 6.00 करोड़ (छः करोड़) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रू० 6.00 करोड़ (छः करोड़) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि०, पटना को डागमारा (130 मेगावाट) जल विद्युत परियोजना के विस्तृत परियोजना प्रतिवेदन एवं इससे संबंधित अन्य कार्य हेतु रू० 6.00 करोड़ (छः करोड़) रू० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रू० 6.00 करोड़ (छः करोड़) ऋण की स्वीकृति प्रदान की गई है।

2.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

3. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं०-10- विपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

4. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

30000.00
प्रबंधक (वित्त)

परामर्श (सहायक)

5/3/13

4494 M/F 2A
05/03/13

5. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
6. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
7. वित्त विभाग के यू० ओ० आर० संख्या-379 दिनांक 13.02.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(नागेन्द्र कुमार सिंह)

सरकार के उप सचिव।

ज्ञापांक-प्र२/ज० वि० नि०-10/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के उप सचिव।

ज्ञापांक- प्र२/ज० वि० नि०-10/12- 1174

पटना दिनांक 28/2/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

28/2/13

सरकार के उप सचिव।

Rs. 500.00 Lacs.

बिहार सरकार
ऊर्जा विभाग

मुख्य अभियन्ता (वि०) कोषाग
प्र.सं. 548
दिनांक 05.3.13

पत्रांक-प्र2/ज0 वि0 नि0-07/12-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

147
05/03/13

विषय:-बिहार राज्य जल विद्युत निगम लि०, पटना को सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रु० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रु० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रु० 5.00 करोड़ (पाँच करोड़) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

महाशय,

राज्य सरकार ने बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा सिस्टम इम्प्रूवमेन्ट के तहत 4 (चार) जल विद्युत परियोजनाओं से उत्पादन क्षमता बढ़ाने हेतु रु० 1418.40 लाख (चौदह करोड़ अठारह लाख चालीस हजार) रु० की योजना की प्रशासनिक स्वीकृति एवं इसके कार्यान्वयन हेतु राज्य योजना से वित्तीय वर्ष 2012-13 में रु० 5.00 करोड़ (पाँच करोड़) ऋण की स्वीकृति प्रदान की गई है।

2.

ऋण की शर्तें निम्नवत् होगी

- (क) ऋण एवं सूद की वसूली बीस वर्षों में होगी, इसकी पहली किश्त की अदायगी ऋण निकासी की तिथि से एक साल बाद से प्रारंभ होगी।
- (ख) एक वर्ष में देय राशि चार त्रैमासिक किश्तों में देय होगी।
- (ग) इस राशि पर 10.5 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (घ) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत वार्षिक की दर से विलंब दंड शुल्क देय होगा, अर्थात् विलंब के लिए सूद की दर 13 प्रतिशत होगी।
- (ङ.) समय पर किश्त का भुगतान नहीं किए जाने की स्थिति में राज्य सरकार वित्तीय सहायता/सब्सिडी की राशि से अतिदेय/देय राशि की वसूली कर सकेगी।

3. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0101- बिहार राज्य जल विद्युत निगम को ऋण - मांग सं०-10- विपत्र कोड-पी० 6801002010101 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि के अन्तर्गत किया जाएगा।

4. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।

रु. 500.00 लाख
मुख्य अभियन्ता (वि०) कोषाग
05.3.13
परामर्शी (फ.आ. बाल)

3/5/13

2594 M (FRA)
05/03/13

5. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
6. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।
7. वित्त विभाग के यू० ओ० आर० संख्या-378 दिनांक 13.02.2013 द्वारा राज्यादेश पर वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(नागेन्द्र कुमार सिंह)

सरकार के उप सचिव।

ज्ञापांक-प्र२/ज० वि० नि०-07/12-

पटना दिनांक

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के उप सचिव।

ज्ञापांक- प्र२/ज० वि० नि०-07/12-

1173

पटना दिनांक 28/2/13

प्रतिलिपि:-प्रबंध निदेशक, बिहार राज्य जल विद्युत निगम लि०, सोनभवन, पटना/आई० टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

रिसेप्शन
28/2/13

सरकार के उप सचिव।

28/2/13



पत्रांक-प्र१/विविध निगम-18/10-

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द्र पटेल पथ, पटना।

विषय:- बिहार राज्य जल विद्युत निगम लि०, पटना को मधेपुरा जिलान्तर्गत अरारघाट (4X1.75 मे० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2012-13 में रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा कोशी मधेपुरा जिलान्तर्गत अरारघाट (4X1.75 मे० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 6544.00 लाख (पैंसठ करोड़ चौवालीस लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०- 3360 दिनांक 3/8/12 द्वारा प्रदान की गई है एवं इसके विरुद्ध नाबार्ड द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत स्वीकृत किए जाने वाले ऋण रु० 6207.30 लाख (बासठ करोड़ सात लाख तीस हजार) की स्वीकृति प्रदान की गई है। शेष रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) राज्य सरकार बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध कराया जाना है।

2. उक्त अलोक में राज्य सरकार ने वित्तीय वर्ष 2012-13 में बिहार राज्य जल विद्युत निगम लि०, पटना को राज्यांश के रूप में रुपये रु० 336.70 लाख (तीन करोड़ छत्तीस लाख सत्तर हजार) के ऋण की स्वीकृति प्रदान की है।
3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।
4. ऋण की अन्य शर्तें निम्नवत् होगी :-
(क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
(ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
(ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
(घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।
5. उक्त राशि 654.40 लाख (छः करोड़ चौवन लाख चालीस हजार) की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज उप मुख्य शीर्ष-00-लघु शीर्ष-201-पन बिजली उत्पादन-समूह शीर्ष-राज्य योजना-उप शीर्ष-0105-बिहार राज्य जल विद्युत निगम को ऋण (नाबार्ड)-मांग सं०-10-विपत्र कोड-पी० 6801002010105 विषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2012-13 में उपबंधित राशि से विकलनीय होगा।

30/8/12
[Signature]
6/8/12

श्री एन दास पसना
14/8/12

अलोक
16.8.12

- 28
6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
 7. वित्त विभाग के परिपत्र सं०-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
 8. वित्त विभाग के यू०ओ०आर० संख्या-शून्य दिनांक 26.07.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह०/-

(शम्भु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना/आई०टी० मैनेजर, ऊर्जा विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह०/-

सरकार के संयुक्त सचिव।

पटना दिनांक 3/8/12

ज्ञापांक- 336/

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि०, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/नाबार्ड XIV-07/08

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:- औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में 101.67 लाख (एक करोड़ एक लाख सरसठ हजार) एवं नाबार्ड ऋण के रूप में 527.73 लाख (पाँच करोड़ सताईस लाख तिहतर हजार) कुल 629.40 (छः करोड़ उनतीस लाख चालीस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति।

आदेश:- स्वीकृत।

बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 1421.00 लाख (चौदह करोड़ इक्कीस लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-902 दिनांक 01.03.2012 द्वारा प्रदान की गई है। इस योजना का वित्त पोषण राज्य सरकार एवं नाबार्ड ऋण के रूप में किया जाना है। नाबार्ड के स्वीकृत्यादेश संख्या-NB.SPD/RIDF-XVII(BIHAR)/118 PSC/2010-11 दिनांक 01 सितम्बर, 2011 द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत इस योजना के लिए कुल 1319.33 (तेरह करोड़ उन्नीस लाख तैंतीस हजार) लाख रुपये ऋण की स्वीकृति प्रदान की गई है, जिसमें से 527.73 करोड़ रुपये वित्तीय वर्ष 2011-12 के लिए दिया जाना है। राज्य सरकार द्वारा राज्यांश के रूप में 101.67 लाख रुपये दिया जाना है। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2011-12 हेतु कुल 629.40 लाख रुपये बिहार राज्य जल विद्युत निगम लि० को राज्य योजना से ऋण के रूप में स्वीकृति दी जानी है।

2. उक्त आलोक में राज्य सरकार द्वारा वित्तीय वर्ष 2011-12 में राज्यांश के रूप में 101.67 (एक करोड़ एक लाख सड़सठ हजार) लाख रुपये एवं नाबार्ड ऋण के रूप में 527.73 लाख (पाँच करोड़ सताईस लाख तिहतर हजार) कुल 629.40 (छः करोड़ उनतीस लाख चालीस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को ऋण के रूप में स्वीकृति प्रदान की जाती है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नही करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में $1/4$ (चौथाई) प्रतिशत की छूट होगी।

कृ०पृ०ऊ०

5. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए कर्ज खेप मुख्य शीर्ष 00-लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उपा शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नाबाई)- मांग सं0-10- विषय कोड-पी0 6801002010105 विषय शीर्ष 5501 ऋण एवं ऋण के अन्तर्गत वित्तीय वर्ष-2011-12 में उपबंधित राशि से निकलनीय होगा।

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि0, पटना को किया जाएगा।

7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2006 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।

8. वित्त विभाग के परिपत्र सं0-7355 दिनांक 05.10.2007 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।

9. वित्त विभाग के डायरी संख्या 1111 (सचिव, व्यय) दिनांक 06.03.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह0/-

(रामु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

आपांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक

आपांक-

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषागार शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि0, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक 26/3/12

आपांक- 1355

प्रतिलिपि:- मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग, पटना/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के संबंधित सहायक, ऊर्जा विभाग, पटना को सूचनाार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

26/3/12

बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/नाबार्ड XIV-07/08

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:-औरंगाबाद जिलान्तर्गत सिपहा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में 94.40 लाख (चौरानवें लाख चालीस हजार) एवं नाबार्ड ऋण के रूप में 483.04 लाख (चार करोड़ तेरासी लाख चार हजार) कुल 577.44 (पाँच करोड़ सतहतर लाख चौवालिस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति।

आदेश:- स्वीकृत।

बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा औरंगाबाद जिलान्तर्गत डेहरा (2X500 कि० वा०) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 1302 लाख (तेरह करोड़ दो लाख) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-897 दिनांक 01.03.2012 द्वारा प्रदान की गई है। इस योजना का वित्त पोषण राज्य सरकार एवं नाबार्ड ऋण के रूप में किया जाना है। नाबार्ड के स्वीकृत्यादेश संख्या-NB.SPD/RIDF-XVII(BIHAR)/118 PSC/2010-11 दिनांक 01 सितम्बर, 2011 द्वारा आर०आई०डी०एफ० XVII के अन्तर्गत इस योजना के लिए कुल 1207.60 (बारह करोड़ सात लाख साठ हजार) लाख रुपये ऋण की स्वीकृति प्रदान की गई है, जिसमें से 483.04 करोड़ रुपये वित्तीय वर्ष 2011-12 के लिए दिया जाना है। राज्य सरकार द्वारा राज्यांश के रूप में 94.40 लाख रुपये दिया जाना है। इस प्रकार इस योजना के कार्यान्वयन हेतु वित्तीय वर्ष 2011-12 हेतु कुल 577.44 लाख रुपये बिहार राज्य जल विद्युत निगम लि० को राज्य योजना से ऋण के रूप में स्वीकृति दी जाती है।

2. उक्त आलोक में राज्य सरकार द्वारा वित्तीय वर्ष 2011-12 के लिए राज्यांश के रूप में 94.40 लाख (चौरानवें लाख चालीस हजार) एवं नाबार्ड ऋण के रूप में 483.04 लाख (चार करोड़ तेरासी लाख चार हजार) कुल 577.44 (पाँच करोड़ सतहतर लाख चौवालिस हजार) लाख रुपये बिहार राज्य जल विद्युत निगम लि०, पटना को वित्तीय वर्ष 2011-12 में ऋण की स्वीकृति प्रदान की जाती है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3881 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।

कृ०प०कृ०

5. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 बिजली परियोजनाओं के लिए ऊर्जा विभाग मुख्य शीर्ष-00-लघु शीर्ष-201- पन बिजली उत्पादन-समूह शीर्ष- राज्य योजना- उप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नाबाड)- मांग सं0-10- विपत्र कोड-पी0 6801022010105 विषय शीर्ष 5501 ऋण एवं अधिम के अन्तर्गत वित्तीय वर्ष-2011-12 में उपबंधित राशि से विकलनीय होगा।

6. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका भुगतान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि0, पटना को किया जाएगा।

7. वित्त विभागीय निर्देश 430 दिनांक 05.06.2008 एवं 719 दिनांक 01.09.2011 में निहित प्रावधानों के आलोक में ऋण पंजी विभागीय स्तर पर संधारण की कारवाई प्रारम्भ की जा रही है।

8. वित्त विभाग के परिपत्र सं0-7355 दिनांक 05.10.2007 के अनुसार इसमें अधिकार पत्र की आवश्यकता नहीं है।

9. वित्त विभाग के डायरी संख्या 1111 (सचिव, व्यय) दिनांक 06.03.2012 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

बिहार राज्यपाल के आदेश से

ह0/-

(शम्भु नाथ मिश्र)

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:-कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक

ज्ञापांक-

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि0, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

पटना दिनांक 26/3/12

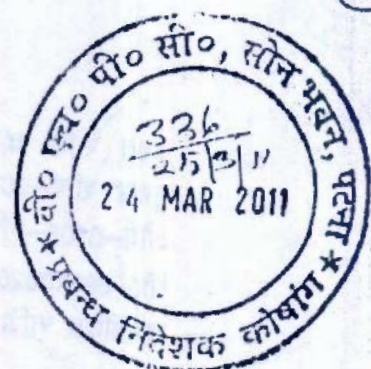
ज्ञापांक- 1354

प्रतिलिपि:- मुख्य विद्युत अभियन्ता के सचिव (प्रावैधिक), ऊर्जा विभाग, पटना/लेखा शाखा (दो प्रतियों में) ऊर्जा विभाग, पटना/योजना एवं बजट शाखा के संबंधित सहायक, ऊर्जा विभाग, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।

26/3/12

बिहार सरकार
ऊर्जा विभाग



पत्रांक-प्र2/ज0 वि0 नि0-01/10

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द पटेल पथ, पटना।

विषय:-बिहार राज्य जल विद्युत निगम लि0, पटना को कोशी प्रक्षेत्र में निर्मली (4X2 मे0 वा0) लघु जल विद्युत परियोजना के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2010-11 में रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार रू0) ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निदेशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि0, पटना द्वारा कोशी प्रक्षेत्र में निर्मली (4X2 मे0 वा0) लघु जल विद्युत परियोजना के निर्माण हेतु रुपये 6561.89 लाख (षेसठ करोड़ एकसठ लाख नवासी हजार) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं0-14/11 दिनांक 23/3/11 द्वारा प्रदान की गई है एवं इसके विरुद्ध गार्ड द्वारा आर0आई0डी0एफ0 XVI के अन्तर्गत स्वीकृत ऋण रू0 6186.87 लाख (इकसठ करोड़ छियासी लाख सतासी हजार) की स्वीकृति प्रदान की गई है। शेष रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार रू0) राज्य सरकार बिहार राज्य जल विद्युत निगम लि0, पटना को उपलब्ध कराया जाना है।

2. उक्त आलोक में राज्य सरकार ने वित्तीय वर्ष 2010-11 में बिहार राज्य जल विद्युत निगम लि0, पटना को राज्यांश के रूप में रुपये रू0 375.02 लाख (तीन करोड़ पचहत्तर लाख दो हजार) के ऋण की स्वीकृति प्रदान की है।
3. वित्त विभाग के परिपत्र सं0-एफ0 4/3381 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि0, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।
4. ऋण की अन्य शर्तें निम्नवत् होगी :-
 - (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक कतरों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
 - (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
 - (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब शुल्क देय होगा।
 - (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।

58

5. उक्त राशि की निम्न हो बजट मुख्य शीर्ष 6801 बिजली प. योजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- और शीर्ष-201- पर बिजली उत्पादन-समु. शीर्ष- राज्य योजना- उप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नावार्ड)- मांग सं0-10- विपत्र कोड- पी0 6801002010-05- वेषय शीर्ष 5501 ऋण एवं अग्रिम के अन्तर्गत वित्तीय वर्ष-2010-11 में उपबंधित राशि से विनिर्जनीय होगा।
6. इस राशि की निम्न मुख्य विद्युत अ. नि. ता के सचिव (प्रावधिक) ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इशारा भुगत बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि0, पटना को किया जाएगा।
7. वित्त विभाग के परिशिष्ट सं0-7355 दिनांक 05.10.2007 के अन्तर्गत इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
8. वित्त विभाग के सू0आ0आर0 संख्या 15/F8 दिनांक 22.02.2011 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।

629
14/3/11

बिहार राज्यपाल के आदेश से
ह0/-

(शम्भु नाथ मिश्र)
सरकार के संयुक्त सचिव,
ऊर्जा विभाग।

ज्ञापांक:-

पटना दिनांक

प्रतिलिपि:- कोषागार प्राधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

ह0/-

सरकार के संयुक्त सचिव।

ज्ञापांक:- 14/6

पटना दिनांक 23/3/11

प्रतिलिपि:- वित्त विभाग, आय व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि0, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

सरकार के संयुक्त सचिव।



बिहार सरकार
ऊर्जा विभाग

पत्रांक-प्र2/ज0 वि0 नि0-05/06

पटना, दिनांक

सेवा में,

महालेखाकार बिहार,
वीरचन्द्र पटेल पथ, पटना।

विषय:- बिहार राज्य जल विद्युत निगम लि०, पटना को डिहरी लघु जल विद्युत परियोजनाओं के स्कैप चैनल के निर्माण हेतु राज्य योजना से राज्यांश के रूप में वित्तीय वर्ष 2010-11 में ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) को ऋण की स्वीकृति।

आदेश:- स्वीकृत।

निर्देशानुसार उपर्युक्त विषय के संबंध में कहना है कि बिहार राज्य जल विद्युत निगम लि०, पटना द्वारा लघु जल विद्युत परियोजनाओं के स्कैप चैनल के निर्माण हेतु रुपये 1184.22 लाख (ग्यारह करोड़ चौसी लाख बाइस हजार) के योजना की प्रशासनिक स्वीकृति राज्यादेश सं०-14/2 दिनांक 23/3/11 द्वारा प्रदान की गई है तथा इसके विरुद्ध नाबार्ड द्वारा आर०आई०डी०एफ० XVI के अन्तर्गत स्वीकृत ऋण ₹0 1120.26 लाख (ग्यारह करोड़ बीस लाख छीस हजार ₹0) की स्वीकृति प्रदान की गई है। शेष ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) राज्य सरकार को राज्यांश के रूप में बिहार राज्य जल विद्युत निगम लि०, पटना को उपलब्ध कराया जाना है।

2. उक्त आलोक में राज्य सरकार ने वित्तीय वर्ष 2010-11 में बिहार राज्य जल विद्युत निगम लि०, पटना को राज्यांश के रूप में रुपये ₹0 63.96 लाख (तिरसठ लाख छियानवें हजार) के ऋण की स्वीकृति प्रदान की है।

3. वित्त विभाग के परिपत्र सं०-एफ० 4/3081 दिनांक 07.07.89 के अनुसार पुराने बकाए एवं सूद का 25 प्रतिशत की कटौती बिहार राज्य जल विद्युत निगम लि०, पटना की वित्तीय स्थिति को देखते हुए नहीं करने की छूट प्रदान की जाती है।

4. ऋण की अन्य शर्तें निम्नवत् होगी :-

- (क) ऋण पुनर्भुगतान एवं सूद का भुगतान 10 (दस) बराबर वार्षिक किस्तों में होगी। इसकी पहली किस्त की अदायगी ऋण की निकासी की तिथि से एक वर्ष के बाद प्रारम्भ होगी।
- (ख) इस ऋण पर 13 प्रतिशत की दर से वार्षिक ब्याज देय होगा।
- (ग) समय पर भुगतान नहीं करने पर 2.5 प्रतिशत की दर से विलम्ब दण्ड सूद देय होगा।
- (घ) समय पर भुगतान करने पर ब्याज दर में 1/4 (चौथाई) प्रतिशत की छूट होगी।



6. उक्त राशि की निकासी बजट मुख्य शीर्ष 6801 विजली प योजनाओं के लिए कर्ज उप मुख्य शीर्ष-00- लघु शीर्ष-201- पन बिजली उत्पादन समूह शीर्ष- राज्य योजना- उप शीर्ष-0105- बिहार राज्य जल विद्युत निगम को ऋण (नावार्ड) - मांग सं०-10- विपत्र कोड- पी०/6801002010105 विषय शीर्ष 6501 ऋण एवं अग्रिम व अंतर्गत वित्तीय वर्ष-2010-11 में उपबंधित राशि से विकसनीय होगा।
8. इस राशि की निकासी मुख्य विद्युत अभियन्ता के सचिव (प्राधिक), ऊर्जा विभाग पटना के द्वारा सचिवालय कोषागार, सिंचाई भवन, पटना से कर इसका गुप्तान बैंक ड्राफ्ट/बैंकर्स चेक के माध्यम से बिहार राज्य जल विद्युत निगम लि०, पटना को किया जाएगा।
7. वित्त विभाग के परिपत्र सं०-73/5 दिनांक 05.10.07 के अनुसार इसमें प्राधिकार पत्र की आवश्यकता नहीं है।
9. वित्त विभाग के यू०ओ०आर० संख्या 104/F8 दिनांक 22.02.2011 द्वारा राज्यादेश में वित्त विभाग की सहमति प्राप्त है।



बिहार राज्यपाल के आदेश से
ह०/-
(शमशु नाथ मिश्र)
सरकार के संयुक्त सचिव,
ऊर्जा विभाग।
पटना दिनांक

ज्ञापांक-

प्रतिलिपि:- कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।

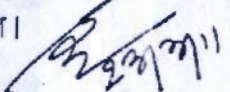
ह०/-

सरकार के संयुक्त सचिव।

ज्ञापांक:- 14/5

पटना दिनांक 23/3/11

प्रतिलिपि:- वित्त विभाग, आय व व्यय शाखा/वित्त विभाग, डाटा कोषांग शाखा/ प्रबंध निदेशक बिहार राज्य जल विद्युत निगम लि०, पटना को सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।


सरकार के संयुक्त सचिव।

ANNEXURE F2

Audit Requirement.No.12

dated: 26.06.2014

Details of Project Wise Subsidy received from MNRE.

Sl. No.	Name of Projects	Opening Balance	Receipt of Fund from MNRE								Amount Utilised	Balance	Utilisation Certificate submitted for the amount
			YEAR										
			2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014				
1	Dhelabagh SHP	₹121.875								121.875	NIL	Submitted	
2	Nasrigani SHP	₹112.50								112.50	NIL	Submitted	
3	Triveni SHP	₹150.00								150.00	NIL	Submitted	
4	Jainagara SHP	₹67.50		₹45.00						112.500	NIL	Submitted	
5	Arwal SHP		₹71.93							71.93	NIL	Submitted	
6	Walidad SHP		₹30.00	₹59.565						89.565	NIL	Submitted	
7	Rajapur SHP		₹30.00	₹59.565						89.565	NIL	Submitted	
8	Shirkhinda SHP		₹89.565							89.565	NIL	Submitted	
9	Belsar SHP		₹112.50							112.500	NIL	Submitted	
10	Tejapura SHP		146.25							146.25	NIL	Submitted	
11	Sebari SHP		₹112.50							112.50	NIL	Submitted	
12	Rampur SHP				₹34.375	₹54.69				89.065	NIL	Submitted	
13	Paharna SHP				₹137.50	₹54.685				192.185	NIL	Submitted	
14	Amethi SHP				₹68.75	₹43.75				112.50	NIL	Submitted	
15	Natarwar SHP					₹56.25				56.25	NIL	Submitted	
16	Dehra SHP					₹62.50				62.50	NIL	Submitted	
17	Sipha SHP					₹62.50				62.50	NIL	Submitted	
18	Barbal SHP					₹34.60				34.60	NIL	Submitted	
19	Mathauli SHP							₹50.00	₹130.00	180.00	NIL	Submitted	
20	Bathnasha SHP					₹132.50			₹159.00	291.50	NIL	Submitted	
21	Nirmali SHP						₹122.50		₹147.00	269.50	NIL	Submitted	
22	Arrarghat SHP					1.60				1.60	NIL		
	Total	451.87	592.75	164.13	240.625	503.075	122.50	50.00	673.50	2798.445			

-145.75
-56.25
-225.00

Appendix-III**Depreciation Schedule**

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%)
		SLM
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For cost of clearing the site	3.34%
(c)	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
(a)	PI & Machinery in generating stations	
(i)	Hydro electric	5.28%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%
(iii)	Diesel electric and gas plant	5.28%
(b)	Cooling towers & circulating water systems	5.28%
(c)	Hydraulic works forming part of the Hydro-	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and syphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
(d)	Building & Civil Engineering works of a	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections such as wooden structures	100.00%
(v)	Roads other than Kutcha roads	3.34%
(vi)	Others	3.34%
(e)	Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant	
(i)	Transformers including foundations having rating of 100 KVA and over	5.28%
(ii)	Others	5.28%
f	Switchgear including cable connections	5.28%

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%) SLM
g	Lightning arrestor	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condensor	5.28%
h	Batteries	5.28%
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
i	Overhead lines including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%
(iv)	Lines on treated wood support	5.28%
j	Meters	5.28%
k	Self propelled vehicles	9.50%
l	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
n	Apparatus let on hire	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
o	Communication equipment	
(i)	Radio and high frequency carrier system	6.33%
(ii)	Telephone lines and telephones	6.33%
p	I. T equipments	15.00%
q	Any other assets not covered above	5.28%

ANNEXURE G2

Appendix-IIDepreciation Schedule

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%)
		SLM
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For cost of clearing the site	3.34%
(c)	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
a.	Pl & Machinery in generating stations	
(i)	Hydro electric	5.28%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%
(iii)	Diesel electric and gas plant	5.28%
b.	Cooling towers & circulating water systems	5.28%
c.	Hydraulic works forming part of the Hydro-generating stations	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
d.	Building & Civil Engineering works	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections such as wooden structures	100.00%
(v)	Roads other than Kutch roads	3.34%
(vi)	Others	3.34%
e.	Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant	

(i)	Transformers including foundations having rating of 100 KVA and over	5.28%
(ii)	Others	5.28%
f.	Switchgear including cable connections	5.28%
g.	Lightning arrestor	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
h.	Batteries	5.28%
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
i.	Overhead lines including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%
(iv)	Lines on treated wood support	5.28%
j.	Meters	5.28%
k.	Self propelled vehicles	9.50%
l.	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m.(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
n.	Apparatus let on hire	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
o.	Communication equipment	
(i)	Radio and high frequency carrier system	6.33%
(ii)	Telephone lines and telephones	6.33%

[(iii)	Fibre Optic	6.33%] ¹²
p.	I. T Equipment including software	15.00%
q.	Any other assets not covered above	5.28%

¹² Added vide First Amendment Regulations, 2015 w.e.f. 24.11.2015

Annexure H

Plant Name	2010-11			2011-12			2012-13		
	Net GFA	Depreciation Rate	Depreciation	Net GFA	Depreciation Rate	Depreciation	Net GFA	Depreciation Rate	Depreciation
Agnoor	8.24	5.17%	0.43	8.24	5.18%	0.43	9.11	5.19%	0.47
Dhelabagh	5.25	5.17%	0.27	5.35	5.18%	0.28	10.31	5.19%	0.54
Jainagara	3.81	5.17%	0.20	4.03	5.18%	0.21	5.22	5.19%	0.27
Nasriganj	4.24	5.17%	0.22	4.25	5.18%	0.22	4.83	5.19%	0.25
Triveni	16.49	5.17%	0.85	16.49	5.18%	0.85	16.49	5.19%	0.86
Valmikinagar	57.56	5.17%	2.98	57.56	5.18%	2.98	58.77	5.19%	3.05
Dehri-on-sona	34.52	5.17%	1.79	37.67	5.18%	1.95	37.70	5.19%	1.96
Barun	15.09	5.17%	0.78	15.71	5.18%	0.81	15.93	5.19%	0.83
Koshikataiya	0.01	5.17%	0.00	6.05	5.18%	0.31	22.07	5.19%	1.15
Shirkhinda	7.41	5.17%	0.38	7.41	5.18%	0.38	7.87	5.19%	0.41
Sebari	8.83	5.17%	0.46	0.34	5.18%	0.02	10.35	5.19%	0.54
Arwal	-	5.17%	-	7.37	5.18%	0.38	8.18	5.19%	0.42
Belsar	-	5.17%	-	-	5.18%	-	10.68	5.19%	0.55
Total	161.45	5.17%	8.35	170.46	5.18%	8.82	217.52	5.19%	11.29

Plant Name	2013-14			2014-15			2015-16			2023-24		
	Net GFA	Depreciation Rate	Depreciation	Net GFA	Depreciation Rate	Depreciation	Net GFA	Depreciation Rate	Depreciation	Net GFA	Depreciation Rate	Depreciation
Agnoor	9.12	5.14%	0.47	9.12	5.20%	0.47	9.12	5.20%	0.47	9.12	5.20%	0.47
Dhelabagh	10.31	5.14%	0.53	10.31	5.20%	0.54	10.31	5.20%	0.54	11.21	5.20%	0.58
Jainagara	5.32	5.14%	0.27	5.32	5.20%	0.28	5.32	5.20%	0.28	5.32	5.20%	0.28
Nasriganj	4.94	5.14%	0.25	4.94	5.20%	0.26	4.94	5.20%	0.26	4.94	5.20%	0.26
Triveni	16.50	5.14%	0.85	16.50	5.20%	0.86	16.50	5.20%	0.86	17.90	5.20%	0.93
Valmikinagar	58.82	5.14%	3.03	58.88	5.20%	3.06	58.88	5.20%	3.06	58.91	5.20%	3.06
Dehri-on-sone	40.07	5.14%	2.06	40.08	5.20%	2.08	40.08	5.20%	2.08	42.90	5.20%	2.23
Barun	15.93	5.14%	0.82	15.93	5.20%	0.83	15.93	5.20%	0.83	15.93	5.20%	0.83
Koshikataiya	22.09	5.14%	1.14	22.09	5.20%	1.15	22.09	5.20%	1.15	22.10	5.20%	1.15
Shirkhinda	7.87	5.14%	0.40	7.87	5.20%	0.41	7.87	5.20%	0.41	8.80	5.20%	0.46
Sebari	10.44	5.14%	0.54	10.45	5.20%	0.54	10.45	5.20%	0.54	10.45	5.20%	0.54
Arwal	8.19	5.14%	0.42	8.19	5.20%	0.43	8.19	5.20%	0.43	8.25	5.20%	0.43
Belsar	10.71	5.14%	0.55	10.71	5.20%	0.56	10.71	5.20%	0.56	10.71	5.20%	0.56
Total	220.30	5.14%	11.33	220.38	5.20%	11.46	220.39	5.20%	11.46	226.54	5.20%	11.78

GFA as per Accounts								
Sr.No.	Particulars	01.04.10	ADD	LESS	31.03.11	Average GFA	Rate of Depreciation	Weighted Rate
1	LAND							
		2,03,83,606.53	-	-	2,03,83,606.53	2,03,83,606.53	0%	0.000%
2	LEASE HOLD LAND							
		1,85,800.00	-	-	1,85,800.00	1,85,800.00	3.34%	0.000%
3	Building - Residential							
		1,83,03,457.67	-	-	1,83,03,457.67	1,83,03,457.67	3.34%	0.030%
4	Building Non -Res							
		1,25,47,300.09	29,50,000.00	-	1,54,97,300.09	1,40,22,300.09	3.34%	0.023%
5	Blg- Sheds							
		7,29,825.55	-	-	7,29,825.55	7,29,825.55	3.34%	0.001%
6	Road & Bridges							
		4,36,71,017.07	-	-	4,36,71,017.07	4,36,71,017.07	3.34%	0.071%
7	Water Supply Installation							
		1,90,280.36	-	-	1,90,280.36	1,90,280.36	3.34%	0.000%
8	Electric Installation							
		15,89,76,200.56	1,01,51,357.14	-	16,91,27,557.70	16,40,51,879.13	5.28%	0.423%
9	Plant & Machinery							
		82,96,37,694.12	2,30,53,238.84	-	85,26,90,932.96	84,11,64,313.54	5.28%	2.168%
10	Power House							
		90,40,10,077.96	68,53,325.00	-	91,08,63,402.96	90,74,36,740.46	5.28%	2.339%
11	Furniture & Fixture							
		32,22,538.11	1,29,422.00	-	32,65,860.11	32,44,199.11	6.33%	0.010%
12	Office Equipments							
		55,20,600.59	6,49,344.00	-	61,65,894.59	58,43,247.59	6.33%	0.018%
13	Other Equipments							
		2,29,31,864.94	-	-	2,29,31,864.94	2,29,31,864.94	6.33%	0.071%
14	EPBX Machine							
		4,22,050.00	-	-	4,22,050.00	4,22,050.00	6.33%	0.001%
15	Books							
		3,40,620.76	20,777.70	-	3,61,398.46	3,51,009.61	5.28%	0.001%
16	Vehicles							
		39,45,504.46	-	-	39,45,504.46	39,45,504.46	5.28%	0.010%
17	Bicycles							
		11,223.14	-	-	11,223.14	11,223.14	5.28%	0.000%
18	Computer							
		14,41,242.52	61,348.00	-	15,02,590.52	14,71,916.52	6.33%	0.005%
19	Other Assets							
		1,02,245.90	-	-	1,02,245.90	1,02,245.90	5.28%	0.000%
	Gross Total	2,02,65,73,150.33	4,38,68,812.68	-	2,07,03,51,813.01	2,04,84,62,481.67		5.172%

GFA as per Accounts						Average GFA	Rate of Depreciation	Weighted Rate
Sr.No.	Particular	01.04.11	ADD	LESS	31.03.12			
1	LAND	2,03,83,606.53	27,720.00	-	2,04,11,326.53	2,03,97,466.53	0%	0%
2	LEASE HOLD LAND	1,85,800.00	-	-	1,85,800.00	1,85,800.00	3.34%	0.00%
3	Building - Residential	1,83,03,457.67	-	-	1,83,03,457.67	1,83,03,457.67	3.34%	0.03%
4	Building Non -Res	1,54,97,300.09	-	-	1,54,97,300.09	1,54,97,300.09	3.34%	0.02%
5	Blg- Sheds	7,29,825.55	-	-	7,29,825.55	7,29,825.55	3.34%	0.00%
6	Road & Bridges	4,36,71,017.07	-	-	4,36,71,017.07	4,36,71,017.07	3.34%	0.07%
7	Water Supply Installation	1,90,280.36	-	-	1,90,280.36	1,90,280.36	3.34%	0.00%
8	Electric Installation	16,91,27,557.70	3,68,56,659.00	-	20,59,84,216.70	18,75,55,887.20	5.28%	0.46%
9	Plant & Machinery	85,26,90,932.96	4,90,91,856.19	-	90,17,82,789.15	87,72,36,861.06	5.28%	2.14%
10	Power House	91,08,63,402.96	10,84,45,167.00	-	1,01,93,08,569.96	96,50,85,986.46	5.28%	2.35%
11	Furniture & Fixture	32,65,860.11	3,26,001.00	-	35,91,861.11	34,28,860.61	6.33%	0.01%
12	Office Equipments	61,65,894.59	3,51,569.00	3,680.00	65,13,783.59	63,39,839.09	6.33%	0.02%
13	Other Equipments	2,29,31,864.94	-	-	2,29,31,864.94	2,29,31,864.94	6.33%	0.07%
14	EPBX Machine	4,22,050.00	1,18,300.00	-	5,40,350.00	4,81,200.00	6.33%	0.00%
15	Books	3,61,398.46	26,000.00	-	3,87,398.46	3,74,398.46	5.28%	0.00%
16	Vehicles	39,45,504.46	-	-	39,45,504.46	39,45,504.46	5.28%	0.01%
17	Bicycles	11,223.14	-	-	11,223.14	11,223.14	5.28%	0.00%
18	Computer	15,02,590.52	5,86,351.00	-	20,88,941.52	17,95,766.02	6.33%	0.01%
19	Other Assets	1,02,245.90	18,340.00	-	1,20,585.90	1,11,415.90	5.28%	0.00%
	Gross Total	2,07,03,51,813.01	19,58,47,963.19	3,680.00	2,26,61,96,096.20	2,16,82,73,954.61		5.177%

GFA as per Accounts								
Sr.No.	Particulars	01.04.12	ADD	LESS	31.03.13	Average GFA	Rate of Depreciation	Weighted Rate
1	LAND	2,04,11,326.53	0.00	0.00	2,04,11,326.53	2,04,11,326.53	0.00%	0.000%
2	LEASE HOLD LAND	1,85,800.00	0.00	0.00	1,85,800.00	1,85,800.00	3.34%	0.000%
3	Building - Residential	1,83,03,457.67	0.00	0.00	1,83,03,457.67	1,83,03,457.67	3.34%	0.025%
4	Building Non -Res	1,54,97,300.09	0.00	0.00	1,54,97,300.09	1,54,97,300.09	3.34%	0.021%
5	Blg- Sheds	7,29,825.55	0.00	0.00	7,29,825.55	7,29,825.55	3.34%	0.001%
6	Road & Bridges	4,36,71,017.07	0.00	0.00	4,36,71,017.07	4,36,71,017.07	3.34%	0.059%
7	Water Supply Installation	1,90,280.36	0.00	0.00	1,90,280.36	1,90,280.36	3.34%	0.000%
8	Electric Installation	20,59,84,216.70	4,58,19,397.00	0.00	25,18,03,613.70	22,88,93,915.20	5.28%	0.490%
9	Plant & Machinery	90,17,82,789.15	12,35,66,216.88	0.00	102,53,49,006.03	96,35,65,897.59	5.28%	2.062%
10	Power House	101,93,08,569.96	23,23,90,999.00	0.00	125,16,99,568.96	113,55,04,069.46	5.28%	2.430%
11	Furniture & Fixture	35,91,861.11	27,198.00	0.00	36,19,059.11	36,05,460.11	6.33%	0.009%
12	Office Equipments	65,13,783.59	10,89,707.00	2,230.00	76,01,260.59	70,57,522.09	6.33%	0.018%
13	Other Equipments	2,29,31,864.94	156.00	0.00	2,29,32,020.94	2,29,31,942.94	6.33%	0.059%
14	EPBX Machine	5,40,350.00	0.00	0.00	5,40,350.00	5,40,350.00	6.33%	0.001%
15	Books	3,87,398.46	47,279.00	895.00	4,33,782.46	4,10,590.46	5.28%	0.001%
16	Vehicles	39,45,504.46	0.00	0.00	39,45,504.46	39,45,504.46	5.28%	0.008%
17	Bicycles	11,223.14	0.00	0.00	11,223.14	11,223.14	5.28%	0.000%
18	Computer	20,88,941.52	7,000.00	0.00	20,95,941.52	20,92,441.52	6.33%	0.005%
19	Other Assets	1,20,585.90	0.00	0.00	1,20,585.90	1,20,585.90	5.28%	0.000%
	Gross Total	226,61,96,096.20	40,29,47,952.88	3,125.00	266,91,40,924.08	246,76,68,510.14		5.190%

GFA as per Accounts						Average GFA	Rate of Depreciation	Weighted Rate
Sr.No.	Particulars	01.04.13	ADD	LESS	31.03.14			
1	LAND							
		2,04,11,326.53	-	-	2,04,11,326.53	2,04,11,326.53	0%	0.000%
2	LEASE HOLD LAND							
		1,85,800.00	-	-	1,85,800.00	1,85,800.00	3.34%	0.000%
3	Building - Residential							
		1,83,03,457.67	-	-	1,83,03,457.67	1,83,03,457.67	3.34%	0.023%
4	Building Non -Res							
		1,54,97,300.09	-	-	1,54,97,300.09	1,54,97,300.09	3.34%	0.019%
5	Blg- Sheds							
		7,29,825.55	-	-	7,29,825.55	7,29,825.55	3.34%	0.001%
6	Road & Bridges						3.34%	
		4,36,71,017.07	-	-	4,36,71,017.07	4,36,71,017.07		0.000%
7	Water Supply Installation							
		1,90,280.36	-	-	1,90,280.36	1,90,280.36	3.34%	0.000%
8	Electric Installation							
		25,37,41,616.70	64,50,137.20	-	26,01,91,753.90	25,69,66,685.30	5.28%	0.506%
9	Plant & Machinery							
		1,02,34,11,003.03	49,89,560.00	-	1,02,84,00,563.03	1,02,59,05,783.03	5.28%	2.019%
10	Power House							
		1,25,16,99,568.96	1,57,08,953.00	-	1,26,74,08,521.96	1,25,95,54,045.46	5.28%	2.479%
11	Furniture & Fixture							
		36,19,059.11	4,33,301.00	-	40,52,360.11	38,35,709.61	6.33%	0.009%
12	Office Equipments							
		76,01,260.59	1,17,425.00	1,595.00	77,17,090.59	76,59,175.59	6.33%	0.018%
13	Other Equipments							
		2,29,32,020.94	1,86,370.00	-	2,31,18,390.94	2,30,25,205.94	6.33%	0.054%
14	EPBX Machine							
		5,40,350.00	-	-	5,40,350.00	5,40,350.00	6.33%	0.001%
15	Books							
		4,33,782.46	6,366.00	-	4,40,148.46	4,36,965.46	5.28%	0.001%
16	Vehicles							
		39,45,504.46	-	-	39,45,504.46	39,45,504.46	5.28%	0.008%
17	Bicycles							
		11,223.14	-	-	11,223.14	11,223.14	5.28%	0.000%
18	Computer							
		20,95,941.52	-	-	20,95,941.52	20,95,941.52	6.33%	0.005%
19	Other Assets							
		1,20,585.90	-	-	1,20,585.90	1,20,585.90	5.28%	0.000%
	Gross Total	2,66,91,40,924.08	2,78,92,112.20	1,595.00	2,69,70,31,441.28	2,68,30,86,182.68		5.143%

GFA as per Accounts						Average GFA	Rate of Depreciat	Weighted Rate
Sr.No.	Particulars	01.04.14	ADD	LESS	31.03.15			
1	LAND							
		2,04,11,326.53	-	-	2,04,11,326.53	2,04,11,326.53	0%	0.000%
2	LEASE HOLD LAND							
		1,85,800.00	-	-	1,85,800.00	1,85,800.00	3.34%	0.000%
3	Building - Residential							
		1,83,03,457.67	-	-	1,83,03,457.67	1,83,03,457.67	3.34%	0.023%
4	Building Non -Res							
		1,54,97,300.09	-	-	1,54,97,300.09	1,54,97,300.09	3.34%	0.019%
5	Blg- Sheds							
		7,29,825.55	-	-	7,29,825.55	7,29,825.55	3.34%	0.001%
6	Road & Bridges							
		4,36,71,017.07	-	-	4,36,71,017.07	4,36,71,017.07	3.34%	0.054%
7	Water Supply Installation							
		1,90,280.36	-	-	1,90,280.36	1,90,280.36	3.34%	0.000%
8	Electric Installation							
		26,01,91,753.90	7,31,696.00	-	26,09,23,449.90	26,05,57,601.90	5.28%	0.510%
9	Plant & Machinery							
		1,02,84,00,563.03	-	-	1,02,84,00,563.03	1,02,84,00,563.03	5.28%	2.013%
10	Power House							
		1,26,74,08,521.96	-	-	1,26,74,08,521.96	1,26,74,08,521.96	5.28%	2.481%
11	Furniture & Fixture							
		40,52,360.11	56,040.00	-	41,08,400.11	40,80,380.11	6.33%	0.010%
12	Office Equipments							
		77,17,090.59	20,000.00	4,184.00	77,32,906.59	77,24,998.59	6.33%	0.018%
13	Other Equipments							
		2,31,18,390.94	-	-	2,31,18,390.94	2,31,18,390.94	6.33%	0.054%
14	EPBX Machine							
		5,40,350.00	-	-	5,40,350.00	5,40,350.00	6.33%	0.001%
15	Books							
		4,40,148.46	-	-	4,40,148.46	4,40,148.46	5.28%	0.001%
16	Vehicles							
		39,45,504.46	-	-	39,45,504.46	39,45,504.46	5.28%	0.008%
17	Bicycles							
		11,223.14	-	-	11,223.14	11,223.14	5.28%	0.000%
18	Computer							
		20,95,941.52	-	-	20,95,941.52	20,95,941.52	6.33%	0.005%
19	Other Assets							
		1,20,585.90	-	-	1,20,585.90	1,20,585.90	5.28%	0.000%
	Gross Total	2,69,70,31,441.28	8,07,736.00	4,184.00	2,69,78,34,993.28	2,69,74,33,217.28		5.198%

GFA as per Accounts						Average GFA	Rate of Depreciation	Weighted Rate
Sr. No.	Particular	01.04.15	ADD	LESS	31.03.16			
1	LAND							
		2,04,11,326.53	-	-	2,04,11,326.53	2,04,11,326.53	0%	0.000%
2	LEASE HOLD LAND							
		1,85,800.00	-	-	1,85,800.00	1,85,800.00	3.34%	0.000%
3	Building - Residential							
		1,83,03,457.67	-	-	1,83,03,457.67	1,83,03,457.67	3.34%	0.023%
4	Building Non -Res							
		1,54,97,300.09	-	-	1,54,97,300.09	1,54,97,300.09	3.34%	0.019%
5	Blg- Sheds							
		7,29,825.55	-	-	7,29,825.55	7,29,825.55	3.34%	0.001%
6	Road & Bridges							
		4,36,71,017.07	-	-	4,36,71,017.07	4,36,71,017.07	3.34%	0.054%
7	Water Supply Installation							
		1,90,280.36	-	-	1,90,280.36	1,90,280.36	3.34%	0.000%
8	Electric Installation							
		26,09,23,449.90	-	-	26,09,23,449.90	26,09,23,449.90	5.28%	0.511%
9	Plant & Machinery							
		1,02,84,00,563.03	-	-	1,02,84,00,563.03	1,02,84,00,563.03	5.28%	2.013%
10	Power House							
		1,26,74,08,521.96	-	-	1,26,74,08,521.96	1,26,74,08,521.96	5.28%	2.480%
11	Furniture & Fixture							
		41,08,400.11	-	-	41,08,400.11	41,08,400.11	6.33%	0.010%
12	Office Equipments							
		77,32,906.59	-	-	77,32,906.59	77,32,906.59	6.33%	0.018%
13	Other Equipments							
		2,31,18,390.94	53,723.00	-	2,31,72,113.94	2,31,45,252.44	6.33%	0.054%
14	EPBX Machine							
		5,40,350.00	-	-	5,40,350.00	5,40,350.00	6.33%	0.001%
15	Books							
		4,40,148.46	-	-	4,40,148.46	4,40,148.46	5.28%	0.001%
16	Vehicles							
		39,45,504.46	-	-	39,45,504.46	39,45,504.46	5.28%	0.008%
17	Bicycles							
		11,223.14	-	-	11,223.14	11,223.14	5.28%	0.000%
18	Computer							
		20,95,941.52	-	-	20,95,941.52	20,95,941.52	6.33%	0.005%
19	Other Assets							
		1,20,585.90	-	-	1,20,585.90	1,20,585.90	5.28%	0.000%
	Gross Total	2,69,78,34,993.28	53,723.00	-	2,69,78,88,716.28	2,69,78,61,854.78		5.198%

Sl.No.	Statutory Auditor Qualification	Management comments
8.1	During the year a sum of Rs. 5,03,07,500/- has been received under this head for projects making total of Rs. 20,84,08,000/-as on 31.03.2011. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.	The amount of Grant in Aid received during the year is related to different projects like Amethi, Rampur & Bathnaha etc. which were under work-in-progress upto the end of the financial year 2010-11, Hence amount has not been adjusted with the value of Fixed Assets.
9.1	During the year a sum of Rs. 4,38,98,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2011 comes to Rs. 1,80,76,22,000/- No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 23, 22,79,991/- has been provided during the year which comes to approximately 13.15% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the Auditor during course of audit. In case of necessity same will be made available.
9.2	During the year a sum of Rs. 24,09,38,000/- has been received from Government of Bihar under RIDF(NABARD) scheme, Total loan under this scheme as on 31.03.2011 comes to Rs. 99.89,04,000/- No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 6,32,69,583/- has been provided during the year which comes to approximately 8.35% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided	
9.3	The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.	The amount of interest is calculated on the basis of terms & conditions mention is letter issued by Govt. of Bihar at the time of grant of loans. The corporation has time and again sent proposals to State Government for conversion of outstanding loan together with interest accrued thereon into Equity and the matter is pending for finalization. The Board of Directors of the Company

		has also approved for the conversion of loan into Equity Share Capital and waiver of interest thereon. As the matter is pending for final approval, no provision against penal interest has been made in the financial statements and the same has also not been claimed by the State Government.
9.4	Unsecured Loan does not include a sum of Rs.13.62 Crore being the outstanding interest bearing Loan (including interest) of Power Finance Corporation (PFC) which was taken at an interest rate of 16.75% per annum on 31.03.1992 and finally settled in June 2011 against which only a sum of Rs 45.31Lacs has been shown as Accrued Interest of PFC -Loan under the Head Liabilities (Schedule-10). This has resulted in understatement of Unsecured Loan to the tune of Rs. 13.62 crore, overstatement of Liabilities amounting to Rs. 45.31 Lacs and Understatement of interest and finance Charges by Rs.13 17Crore.	The matter of payment of interest was under dispute upto the end of the financial year 2010-11.
10.2	Fixed Assets includes a sum of Rs. 1,85,800/- under the head of Lease hold land No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	
10.4	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.
10.5	Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10, It appears that it was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.

	capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	
10.6	Fixed Assets also includes a sum of Rs 12371057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalization treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	
10.7	Fixed Assets also includes a sum of Rs.3662283/- being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation	
10.8	Fixed Assets includes a sum of Rs. 5850642-being the amount paid through Running Account bill and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	The assets still not completed and it was in work-in-progress hence it was not capitalised
10.9	Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized.Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.	Vehicle purchase and invoice received during the financial year 2009-10.
11.1	Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 105,53,12,045- and Development Expenditure including borrowing cost amounting to Rs. 225,94 45.462-. Besides neagative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs. 1,03,73,276,00 at E.M. Jenagra due to over Capitalisation in Previous Financial years. Reason	There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31 st March, 2011. The details of development

	of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539,38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.	expenditure is available.
11.2	Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 1131.77Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-1 (Rs. 9717966/4), dewatering at Walidad (Rs, 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital-work-In progress as reflected in financial statements is related to different projects which was still in progress for the period ended on 31 st March-2011 hence same has not been written off.
11.3	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	The amount outstanding under the head project repost/ preliminary expenses is related to different projects which was still in progress for the period ended on 31 st March-2011 hence same has not been written off.
11.4	During the current year a sum of Rs. 19,78,982/- related to Head Office Expenses has been allocated to upcoming Sipha project and Rs. 8,50,04,857/- has been allocated to 7 other upcoming Projects on which Previous Year R\$ 2.39,73,480/- was allocated, where no activity were shown and it appears disproportionate compared to basis of allocation disclosed in accounting policy 2.12 of Schedule 17 to the accounts, In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure floss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the projects whose work is not in progress
11.5	Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation	Such calculation is available.
11.6	Break-up of Development Expenditure as shown in Schedule-5.B being Rs. 19.59.75,020.45 does not tally with break-up reflected in Appendix to Schedule-5 (Rs. 19,59,95,536.45)	The difference amount is not material but need to be reconciled

11.7	Capital-work in Progress includes a sum of Rs. 645525/- which is Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance	Such amount is paid against the project which was still in progress for the period ended on 31 st March 2011 hence it has been shown under the capital work in progress.
11.8	Capital Work in Progress includes a sum of Rs. 16,70,837.50 being the amount of addition made during the year in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit	This amount is related to Chandil H.E.Project (Jharkhad).
11.9	Capital Work in Progress includes a sum of Rs.54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant. Western Sone Powerhouse Plant was Capitalised in earlier year and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.	The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity
12.1	It includes Rs. 53,44,398/ being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted	During the year Rs. 19564332.37 has been adjusted out of the account of materials issue to contractor. The amount outstanding need to be adjusted in forth coming year.
12.2	Inventories includes Capital Stores amounting to Rs 67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.	The amount of capital store is prequed during the recent year hence outstanding as on 31 st March 2011
12.3	Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs 67,787/- Considering it's future usability, in our opinion these should be charged to revenue.	Management is in process of locating nature of these expenses and it will be treated as revenue after proper allocation.
13	Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for its assets and Liabilities has not yet been made. However, Partial Reconciliation clearly reflects a huge gap between the outstanding realisable amount in books of Corporation	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.

	(1757.10 Lakh) and is not malisable and it should be Properly provided and resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors.	
14.1	Confirmation related to balance of Rs 14620/shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620 Reconciliation Statement/Reason for such a huge difference was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.
14.2	Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many Bank Accounts of Units and One Bank Account of Head Office were not operated since many years. In some cases Latest Bank Reconciliation Statement being balance tallied with Books of Accounts were not produced. Even in cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit /interest Debit were not recorded) are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.	Due to division projects between state of Bihar & state of Jharkhand some of the project are manaished by Jharkhand Govt. and the complete document related to those projects are not available hence Bank Accounts is un reconciled.
14.3	Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us it was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.	After the maturity receipt of fixed deposit was handed over to bank for resumption hence it was not available during the audit further due to redemption of the short term deposit conformation certificate from bank was not made available during the course of audit.
14.4	Against Opening Balance of stamps in hand amounting to Rs. 4510/- a sum of Rs 1107)- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 6110/- has been accounted but due to difference in opening balance book balance of Rs. 9513-has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss	During the year 2009-10 stamp value equal to Rs. 1107/- was in hand and it was consume during the 2010-11 hence such amount was reversed. Similarly stamp value of Rs. 6110/- is purchase and was in hand as on 31 st March 2011.

14.5	No proper adjustment of income tax deducted at source (TDS) where ever deducted, was found. Non adjustment of TDS results in short adjustment of income interest accrued.	The amount of TDS was adjusted in difference financial year as an when required.
14.6	Calculation sheet of interest provision was not available.	The calculation sheet of interest provision is available.
14.7	Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.	Need to be adjusted.
15.1	Advance Recoverable in cash includes Rs. 44.57 crore advances to suppliers/contractors and Rs. 0.17 crore other recoverable from contractors/employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc. which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise/age-wise break up.	These amount is adjusted from year to year after receiving proper invoices some of the amount like Income tax advance, Income tax deducted as source where not adjusted due to non availability of Income Tax intimation order.
15.2	Loans and Advances includes balances which are revenue in Nature, e.g. Insurance Advance Rs. 22,515/- Advance for Advertisement Rs. 2,75,555/-, Pre-Paid Expenses 10,000/-, LT.C Advance Rs. 56758/-, T.A. Advance Rs. 21,46,145/-, Legal Advance Rs.26,48,612/-, Transfer Travelling Advance Rs. 58721/- Consultancy Advance Rs. 44,250/-, Temporary Advance Rs. 99,68,598/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.	Due to not presentation of adjustments bill or invoices these amount were still outstanding for the period ended on 31 st March 2011 and is adjusted after receiving invoices or adjustment voucher from year to year.
15.3	Loans and Advances includes a sum of Rs. 2,05,20,517/- towards advance to staff comprising Rs. 20,19,484/- towards Salary Advance, Rs 74,380/- towards marriage advance, Rs. 22,21,171/-towards House Building Advance, Rs. 6,64,474/ towards Medical Advance, etc where Employee wise Proper details are not available with Corporation. There are many	Due to not presentation of adjustments bill or invoices these amount were still outstanding for the period ended on 31 st March 2011 and is adjusted after receiving invoices or adjustment voucher from

	cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances	year to year.
15.4	Advances includes opening balance of Rs. 1,00,000.00 being Advance Tax Deposit, detail of which was not available and reason of non-adjustment could not be explained.	The amount is not traceable in books of accounts.
15.5	During the year a sum of Rs. 34,08,568/- has been accounted as income tax deducted at source on interest paid by banks as against interest income of Rs. 66,57,983/-. It seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Position of refund in view of no taxable income could not be explained.	The amount of TDS on interest paid by the bank as against the interest income of Rs. 2,75,57,983/- not against the interest income of Rs. 66,57,983/-.
15.6	Advance for land acquisition amounting to Rs. 5,00,000.00 outstanding since long remains to be adjusted /recovered.	It is outstanding since long time and paid to the land acquisition officer, Bettiah.
15.7	Loans and advances includes a sum of Rs. 42 80 lakh receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the Department,, we are unable to offer our comments on realisibility of this amount and resulting loss.	Corporation was regular communication with Energy Department, Govt. of Bihar for recovery of this amount and it is recoverable.
15.8	Balances of Ranchi Project Office and Inter Unit current account to Rs. 3,98,884.87 outstanding long remain to be reconciled.	Corporation was in process of reconciling the same for the period ended on 31 st March 2011.
16.1	Sundry Creditors amounting to Rs. 96.00 lakh consist of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc. under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinizing the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts. Also it includes debit balances amounting to Rs. 368.24 Lakh resulting into understated Current Liabilities as well as Loans and advances.	Since there is larg number of vender associated with the Corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.
16.2	Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not	This amount was received from Irrigation Department

	be explained to ascertain whether it is correctly current liability.	to construct canal / gate related to Sone Western H.E.Project, Dehri since this amount was unspent for up to the period ended on 31.03.2011 hence it was showing as outstanding.
16.3	ity includes a sum of Rs. 1,73,378/- (Debit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,372/- which is the amount of Gratuity Paid to the employee against which amount was not received from LIC and which should have been charged to revenue. Thus Gratuity Expenses/ Accumulated Loss as well as Liability is understated by Rs. 2773121-	The amount of Gratuity liability is realted to the employees against whome amount is received from LIC and shown under the head of Gratuity liabilities.
16.4	Current Liabilities includes a sum of Rs. 4,68,209/-(including Rs. 83,217/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.	The amount of Rs. 83,217/- written as audit fee includes Rs. 38605/- as statutory audit fee, Rs. 22,000/- as Tax audit fee & Rs 22612/- as Internal Audit fee which are bifurcated in books of account
17.1	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be ensured.	Bank statement was made available during the couce of audit of those bank account which were in operation and statement was available from Bank
17.2	Agreement with Bihar State Electricity Board, was not available to verify the rate at which sale of energy is made to them.	Same is available
17.3	Employer's Contribution to Provident Fund has not been shown separately included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary

Sl.No.	Statutory Auditor Qualifications	Management comments
9.1	During the year a sum of Rs. 1,22,50,000/- has been received under this head for projects making total of Rs. 22,06,58,000/- as on 31.03.2012. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Note 2.8 of Schedule 17 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.	The amount of Grant in Aid received during the year is related to different projects like Amethi, Rampur & Bathnaha etc. which were under work in progress upto the end of the financial year 2011-12. Hence amount has not been adjusted with the value of Fixed Assets.
10.1	During the year a sum of Rs. 1,96,07,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2012 comes to Rs. 1,82,72,29,000/- No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs. 24,08,65,633/- has been provided during the year which comes to approximately 13.32% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the auditors during course of audit. In case of necessity same will be made available.
10.2	During the year a sum of Rs. 336342000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2012 comes to Rs. 1,33,52,46,000/- No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to Rs10,97,89,736/- has been provided during the year which comes to approximately 11.00% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	
10.3	The Corporation has defaulted in repayment of Unsecured loan received from Govt. of Bihar under RIDF (NABARD) Scheme and Other Loans. No Separate calculation for liability on account of payment of Penal Interest due to default in repayment was provided to us. In absence of calculation, it could not be ascertained whether liability on account of penal interest for delayed repayment has been provided or not.	The amount of interest is calculated on the basis of terms & conditions mention in letter issued by Govt. of Bihar at the time of grant of loans. The Corporation has again sent proposals to State Government for conversion of outstanding loan together with interest accrued thereon into Equity and the matter is pending for finalization. The Board of Directors of the company has also approved for the conversion of loan into Equity Share Capital and waiver of interest thereon. As the matter is pending for final approval, no provision against penal interest has been made in the financial statement and the same has also not been claimed by the State Government.
11.3	Fixed Assets includes a sum of Rs.1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	Lease agreement related to leasehold land is not available, hence not amortised.
11.5	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the Fixed Assets not related to power Generating units and at rates prescribed in Income

	Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Tax Rules for generating units on the fixed assets related to power generating units.
11.6	Fixed Assets also includes a sum of Rs. 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to Rs. 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to Rs. 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that is was a case of repairs and maintenance it did not increased the future-benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.
11.7	Fixed Assets also includes a sum of Rs.1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
11.8	Fixed Assets also includes a sum of Rs.72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the current financial year for Western Sone (Dehri) Unit Capitalised during the Financial Year 2011-12 under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is Rs. 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
11.9	Fixed Assets also includes a sum of Rs.36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation	The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.
11.10	Fixed Assets includes a sum of Rs. 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	The assets still not completed and its was in work in progress hence it was not capitalized.
11.11	Fixed Assets includes a sum of Rs. 25,74,696 (Construction of Escape Regulator) and Rs. 15,05,506 (Construction of Escape Channel) being the	Assets are capitalized on the basis of running bill and final bill may be sent

	amount paid through Running Account bill and capitalized during the current financial Year as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	submitted by the contractor in later year.
11.12	A sum of Rs. 9242/- has also been noticed as addition to fixed assets under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.	The value of assets is more than Rs 5000 hence same has been capitalized.
11.13	Fixed Assets does not includes a sum of Rs. 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Suppliers.	Vehicle is purchased during the FY 2009-10 and invoice for the same is available.
12.1	Capital Work in Progress consists of Assets under construction/installation/acquisition amounting to Rs. 1,24,54,40,856/- and Development Expenditure including borrowing cost amounting to Rs. 2,51,84,99,668 Besides negative balance under the head of Land at Triveni amounting to Rs. 10,19,922/- and Rs. 1,03,73,276.00 at E.M. Jainagra due to over Capitalisation in Previous Financial years. Reason of negative balance could not be explained. Capital Work in Progress includes Rs. 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.	There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31 st March 2012. The details of development expenditure is available
12.2	Negative balance under the head of Electric Equipment and Fabrication amounting to Rs. 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Current Financial year. Reason of negative balance could not be explained.	It is not the case of over capitalization it is due to inter head transfer of different ledger account.
12.3	Capital Work-in-Progress includes both tangible and intangible assets amounting to Rs. 6435 83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (Rs. 9717966-), dewatering at Walidad (Rs. 4840000/-), Excavation work in Progress (Rs. 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction/Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital work in progress as reflected in financial statement is related to different projects which were still in progress for the period ended 31 st March 2012 hence same has not been written off.
12.4	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	The amount outstanding under the head project report / preliminary expenses is related to different projects which were still in progress for the period ended on 31 st March-2012 hence same has not been written off.

12.5	During the current year a sum of Rs 6, 04, 90,058/-related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development / activity were made on these Projects. Thus till now a sum of Rs. 13,44,37,746/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the project whose work is not in progress
12.6	During the current year a sum of Rs.52,61,414/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to allocate Head Office Expenses amounting to Rs.82492/- to Lower Ghaghari project resulting understatement of revenue expenditure loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the project whose work is not in progress.
12.7	We have noticed that in compliance of Accounting Policy disclosed in Notes 2/11 and 2.12 of Schedule 17 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/Fixed Assets.	Same was charged to Capitalized and Credit to Income Account as and when required.
12.8	Accounting Policy disclosed in Notes 2.11 and 2.12 of Schedule 17 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.	Such calculation is available.
12.9	We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.	Same was still pending with Government of Bihar
12.10	Capital-work in Progress includes a sum of Rs. 645525/- which is Amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.	Such amount is paid against the project which was still in progress for the period ended on 31 st March 2012 hence it has been shown under the capital work in progress.
12.11	Capital Work in Progress includes a sum of Rs. 16,70,837 50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit	The amount is related to Chandil H.E.Project (Jharkhand)
12.12	Capital Work in Progress Includes a sum of Rs 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010- 11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y, 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress	The amount has been show under capital work in progress due to construction of additional civil structure of enhancement of capacity.

13.1	It includes Rs. 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.	The amount of Materials issue to contractor Rs. 53,44,398/- need to be adjusted in forth coming year.
13.2	Inventories includes Capital Stores amounting to Rs 67,78,250/- which requires thorough technical review of the position of non-moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding	The amount of capital store is procured during the recent year hence outstanding as on 31 st March 2012.
13.3	Inventories includes a sum of Rs. 23696/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to Rs. 67,787/- Considering it's future usability, in our opinion these should be charged to revenue.	Management is in progress of locating nature of these expenses and it will be treated as revenue after proper allocation.
13.4	Against Opening Balance of stamps in hand amounting to Rs. 309689/-, a sum of Rs. 395885/-has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 348595/- has been accounted but due to difference in opening balance book balance of Rs. 262399/- has been shown. This has resulted in Understatement of stamp in hand by Rs. 86196.00 and overstatement of expenses/loss.	No such balance is available in books of accounts.
14	Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of Rs. 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in FY 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtors. For un-reconciled portion of bill related to Kataiya Project we are unable to express our opinion on it's reliability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtors:	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.
15.1	Confirmation related to balance of Rs. 14620/- shown in Public Ledger Account No. 8448 dt 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being Rs. 3,00,14,620/- Reconciliation Statement / Reason for such a huge difference was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.
15.4	Balance of stamps in hand amounting to Rs. 9513/-, a sum of Rs. 6110 has been reversed during the current Year related to consumption of Previous Year Closing stock of Rs 9003- has been accounted but due to difference in opening balance book balance of Rs. 12406/-has been shown. This has resulted in overstatement of stamp in hand by Rs. 3,403.00 and understatement of expenses/loss.	During the year 2010-11 stamp value equal to Rs. 6110/- was in hand and it was consume during the 2011-12 hence such amount was reversed. Similarly stamp value of Rs. 12406/- is purchase and was in hand as on 31st March 2012.
17.1	Sundry Creditors amounting to Rs. 100.65 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party/and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinizing the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.	Since there is large number of vender associated with the Corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of sundry creditors was adjusted from year to year after receiving necessary bill or invoices.

17.2	Nature of Rs. 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.	This amount was received from Irrigation Department to construct canal / gate related to Sone Western H.E.Project, Dehri since this amount was unspent for up to the period ended on 31.03.2011 hence it was showing as outstanding.
17.3	Liability includes a sum of Rs. 228828/- (Credit) towards Gratuity liability, which is net of Debit balance of Rs. 2,77,3721- which is the amount of Gratuity Paid to the employee against which amount was not received from LIC and which should have been charged to revenue. During the Current a sum of Rs. 10,36,432/- was received from LLC against which a sum of Rs.6342261-only was paid during the year and balance Rs. 402206/- is payable in next Financial Year. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by Rs. 277312/-	The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities
17.4	Current Liabilities include a sum of Rs. 477243/-(including Rs. 66944/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.	The amount of Rs. 83,217/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee which are bifurcated in books of account
17.5	Current Liabilities include a sum of Rs: 13,92,198/- (Debit) being Grant in Aid receivable from Govt of Bihar since long but it's nature and reason for outstanding since long time could not be explained to us.	This balance stands since long time and not traceable.
17.6	Current Liabilities include a sum of Rs.45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long During the year a sum of Rs. 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back for the year as well as liability is overstated to that extent.	It will be adjusted in due course.
18.1	During the Year a sum of Rs. 13.62 crores was paid towards interest on PFC loan. The amount relates to previous accounting year for which proper provisions were not made in particular Financial year. The amount paid should have been treated as prior period expenses but the corporation has treated as expenses of current financial year.	The matter of payment of interest was under dispute upto the end of the financial year 2011-12
18.2	A sum of Rs. 3629730/- was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and the amount was reimbursable to the Corporation but the same has been treated as expenses for the year, which resulted into overstatement of expenses and understatement of Current Assets.	The amount is not since to be receivable from Government in near future hence it is charged to P/L Account. As soon as it will become receivable or receipt it will be treat as income
18.3	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.	Bank statement was made available during the course of audit of those bank accounts which were in operation and statement was available from Bank
18.4	Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them. 18.5.	Same is available
18.5	Employer's Contribution to Provident Fund has not been shown separately included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary

Sl.No.	Statutory Auditor Qualifications	Management comments
6.1	During the year a sum of ₹ 50,00,000/- has been received under this head for projects making total of 22,56,58,000/-as on 31.03.2013. Necessary documents were not available to verify the nature of receipt and terms and condition related thereto. As explained, these are capital subsidy and as disclosed in the Accounting Policy (Para 2.8 of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.	The amount of Grant in Aid received during the year is related to Mathauli projects which were under work in progress upto the end of the financial year 2012-13. Hence amount has not been adjusted with the value of Fixed Assets.
7.1	During the year a sum of ₹ 14,36,70,000/- has been received from Government of Bihar besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2013 comes to ₹ 197,08,99,000/-. No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 24,59,64,952/- has been provided during the year which comes to approximately 13.46% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the auditors during course of audit. In case of necessity same will be made available.
7.2	During the year a sum of ₹ 24,97,23,000/- has been received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this scheme as on 31.03.2013 comes to ₹ 1,58,49,69,000/-. No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 18,52,08,418/- has been provided during the year which comes to approximately 13.87% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.	
8.3	Fixed Assets includes a sum of 1,85,800/- under the head of Lease hold land. No amount is amortized based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	Lease agreement related to leasehold land is not available, hence not amortized.
8.5	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power

	units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.
8.6	Fixed Assets also includes a sum of ₹ 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to ₹ 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increase the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized
8.7	Fixed Assets also includes a sum of ₹ 1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
8.8	Fixed Assets also includes a sum of ₹ 2, 2,76,511/- being the amount of Entry tax related procurement of goods during the financial years 2007-18 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is ₹ 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.

	effect on charge of depreciation.	
8.9	Fixed Assets also includes a sum of ₹ 36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.
8.10	Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	The assets still not completed and it was in work-in-progress hence it was not capitalized.
8.11	Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial Year 2011-12 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.	The assets was not completed upto the end of the financial year hence it was in work in progress and not capitalized.
8.12	A sum of ₹ 9242/- has also been noticed as addition to fixed assets in the Financial Year 2011-12 under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.	The value of assets is more than Rs 5000 hence same has been capitalized.
8.13	Fixed Assets does not includes a sum of 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in	Vehicle purchase and invoice received during the financial year 2009-10.

	understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.	
8.14	Fixed Asset does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses). Non-Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.	Since usefull life of this goods is very short period and it is being replace year to year hence charged to revenue.
8.15	Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project which is still under progress and no final bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in Overstatement of fixed assets by ₹ 15,03,46,125/- as well as ₹ 73,64,292/- of Loss for the year and Accumulated Loss and understatement of Capital work in Progress by ₹ 15,77,10,417/-.	The project was completed hence depreciation has been charged.
8.16	Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.	The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.
8.17	Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier years.	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor.
8.18	Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the current financial Year as Plant & Machinery and no final bills were raised by the contractor	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor.

	and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further No depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of Capital Work in Progress.	
8.19	Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of Spares, Maintenance Expenses, etc., which was capitalised as Fixed Assets. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.
8.20	Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric Equipment at Belsar. ₹ 64,80,000/- Electric Equipment at Alwar, ₹ 32,13,800/- Electric Equipment and 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years. It was noticed that capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor
8.21	Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹ ,779/- at Belsar, ₹ 187335/- at Arwal, ₹ 11263660/- at East Gandak, ₹ 2580820/- at Koshi ₹ 19800/- at Sone Eastern and ₹ 46952/- at shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard	The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.

	of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	
9.1	Capital Work in Progress consists of Assets under construction/ installation/ acquisition amounting to ₹ 1,36,69,74,071/- and Development Expenditure including borrowing cost amounting to ₹ 2,79,20,96,069/-. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922/- and ₹ 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.	There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31 st March, 2013. The details of development expenditure is available.
9.2	Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011- 12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over capitalization during the current Financial Year. Reason of negative balance could not be explained.	The amount of negative balance under these head is not due to over charging of depreciation the reason for the same is inter transfer of different head under the capital work in progress.
9.3	Capital Work-in-Progress includes both tangible and intangible assets amounting to ₹ 6435.83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-1 (₹ 9717966/-), dewatering at Walidad (₹ 48,40,000/-), Excavation work in Progress (₹ 243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital-work-In progress as reflected in financial statements is related to different projects which was still in progress for the period ended on 31 st March-2013 hence same has not been written off.
9.4	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	The amount outstanding under the head project report/ preliminary expenses is related to different projects which was still in progress for the period ended on 31 st March-2013 hence same has not been written off.
9.5	During the current year a sum of ₹ 2,62,05,884/- related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other	The amount incurred in the head office is not only related to generating units. It is also related to

	development / activity were made on these Projects. Thus till now a sum of ₹ 5,90,26,969/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.	the projects which are under work in progress hence expenses of head office is allocated to the projects whose work is not in progress
9.6	During the current year a sum of ₹ 53,44,194/-related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to allocate Head Office Expenses on these projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the project whose work is not in progress.
9.7	We have noticed that in compliance of Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets	Same was charged to Capitalized and Credit to Income Account as and when required.
9.8	Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.- 19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.	Such calculation is available.
9.9	We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the	Same was still pending with Government of Bihar

	project as these papers were not made available to us.	
9.10	Capital-work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.	Such amount is paid against the project which was still in progress for the period ended on 31 st March 2013 hence it has been shown under the capital work in progress.
9.11	Capital Work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.	This amount is related to Chandil H.E. Project (Jharkhand)
9.12	Capital Work in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.	The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity .
9.13	A sum of ₹ 52,48,548/- paid during the year as Consultancy to different parties for preparation of feasibility report and D.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.	The amount of consultancy fee during the year for preparation of feasibility report and DPR is in the nature of revenue and charged to P/L account.
10.1	It includes ₹ 53,44,398/- being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilised but in absence of necessary documents it remains unadjusted.	The amount of Materials issue to contractor Rs. 53,44,398/- need to be adjusted in forth coming year.
10.2	Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires thorough technical review of the position of non- moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.	The amount of capital store is procured during the recent year hence outstanding as on 31 st March 2013.
11	<u>Sundry Debtors:</u> Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.

	Project, which was taken over by the Corporation but adjustment for its assets and Liabilities has not yet been made. However, Partial Reconciliation made in FY 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to Kataiya Project, we are unable to express our opinion on its realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtor.	
12.1	Confirmation related to balance of ₹ 14,620/- shown in Public Ledger Account No. 8448 dt. 28/03/2014 was produced before us which reflects that this account was not operated since 12/08/1988 and last balance was being ₹ 3,00,14,620/- Reconciliation Statement / Reason for such a huge difference was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as grant which was un-reconciled due to not operation of P/L account.
12.4	Against Opening Balance of stamps in hand amounting to ₹ 12,406/-, a sum of ₹ 9,003/- has been reversed during the current Year related to consumption of Previous Year. Closing stock of Rs 9,283/- has been accounted but due to difference in opening balance book balance of ₹ 12,686/- has been shown. This has resulted in overstatement of stamp in hand by ₹ 3,403.00 and understatement of expenses/loss.	During the year 2011-12 stamp value equal to Rs. 12406/- was in hand and it was consumed during the 2012-13 hence such amount was reversed. Similarly stamp value of Rs. 12686/- is purchase and was in hand as on 31st March 2013.
13.2	Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206/-, Advance for Advertisement ₹ 3,15,555/-, Guest house Rent (Pre-Paid Expenses) 10,000/-, L.T.C Advance ₹ 56,758/-, T.A. Advance ₹ 18,09,107/-, Legal Advance ₹ 14,97,116/-, Transfer Travelling Advance ₹ 73,222/-, Consultancy Advance 44,250/-, Temporary Advance ₹ 98,28,608/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.	Due to not presentation of adjustment bill of invoice these amounts were still outstanding for period ended on 31 st March 2013 and is adjusted after receiving invoice or adjustment voucher from year to year.
13.3	Loans and Advances include a sum of ₹ 1,46,21,840/- towards advance to staff comprising ₹ 10,40,105/- towards Salary Advance, ₹ 42,821/- towards marriage advance, ₹ 3,73,326/- towards House Building Advance ₹ 5,36,651/- towards Medical Advance, etc where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisability of these staff	Due to not presentation of adjustment bill of invoice these amounts were still outstanding for period ended on 31 st March 2013 and is adjusted after receiving invoice or adjustment voucher from year to year.

	advances.	
14.1	Sundry Creditors amounting to ₹ 161.07 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.	Since there is large number of vender associated with the corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.
14.2	Nature of ₹ 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.	This amount was received from Irrigation Department to construct canal / Gate related to Sone Western H.E. Project, Dehri since this amount was unspent for upto the period on 31.03.2013 hence it was showing as outstanding.
14.3	Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No Expenses were recognised for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C. and which should have been charged to revenue. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by ₹ 1,94,224/-.	The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities
14.4	Current Liabilities include a sum of ₹ 4,90,432/-(including ₹ 1,79,304/- for the Year) being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor. The Audit Fee payable to the Auditors for the Year is higher than the amount provided. In absence of proper details we are unable to offer our comments on the amount provided as well as disclosure requirements under Part-II of Schedule-VI to the Companies Act, 1956, which requires Audit Fee payable to Statutory Auditors should be separately disclosed.	The amount of Rs. 1,79,304/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee and statutory audit fee Rs. 1,12,360/- which are bi furcated in books of account
14.5	Current Liabilities include a sum of ₹ 13,92,198/- (Debit) being Grant in Aid receivable from Govt. of Bihar since long but it's nature and reason for outstanding since long time could not be explained to us.	This balance stands since long time and not traceable.
14.6	Current Liabilities include a sum of ₹ 45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long. During the financial year 2011-12 a sum of ₹ 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the	It will be adjusted in due course.

	liability is no longer required and should be written back and hence loss for the year as well as liability is overstated to that extent.	
15.1	A sum of ₹ 5622020/- (P.Y. 3629730/-) was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and the amount was reimbursable to the Corporation but the same has been treated as expenses for the year, which resulted into overstatement of expenses as well as overstatement of Accumulated Loss by ₹ 9251750/- and understatement of Current Assets.	The amount is not since to be receivable from Government in near future hence it is charged to P/L Account. As soon as it will become receivable or receipt it will be treat as income
15.2	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.	Bank statement was made available during the course of audit of those bank accounts which were in operation and statement was available from Bank
15.3	Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.	Same is available
15.4	The Corporation was contributing to Life Insurance Policy for Gratuity Liability of it's Employees. During the Current year neither the amount of contribution paid to the Life Insurance Corporation not provided for it. In absence of proper details about liability, we are unable to quantify the amount through which the Loss for the Year, Accumulated Loss and Liability were understated. Further no provisions were made for other terminal benefits.	Due to retirement of many employees in different period the actual amount payable to LIC is not reasonably estimated hence not provided in the books of account.
15.5	Employer's Contribution to Provident Fund has not been shown separately included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary

Sl.No.	Statutory Auditor Qualifications	Management comments
6.1	<p>During the year a sum of 6,73,50,000/- has been received under this head for projects making total of 29,30,08,000/- as on 31.03.2014. Necessary documents related to compliance of term of Conditions as provided in Sanction letters were not made available to us. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2.8 of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in operation but no amount of grant has been adjusted from the cost of related projects resulting overstatement of Fixed Assets with corresponding overstatement of Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.</p>	<p>The amount of Grant in Aid received during the year is related to different projects like Amethi, Rampur & Bathnaha etc. which were under work-in-progress upto the end of the financial year 2013-14, Hence amount has not been adjusted with the value of Fixed Assets.</p>
7.1	<p>During the year a sum of 16,00,00,000/- has been received from Government of Bihar against sanction of Rs. 21,00,00,000/- besides fund received under RIDF(NABARD) scheme as stated below. Total loan as on 31.03.2014 comes to 213.08.99,000/-. No letter of Government of Bihar related to such loan prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to 26,90,88,994/- has been provided during the year which comes to approximately 13.65% per annum at simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.</p>	<p>The rate of interest on loan has been applied on the basis of letter issued by Govt. of Bihar and the calculation sheet was made available to the Auditor during course of audit. In case of necessity same will be made available.</p>
7.2	<p>During the year a sum of 34,22,07,000/- has been received from Government of Bihar under RIDF (NABARD) scheme. Total loan under this scheme as on 31.03.2014 comes to 1,92,71,76,000/-. No letter of Government of Bihar related to such loan Prior to Financial Year 2008-09 was available to verify the rate of interest and terms and condition related thereto. Interest amounting to 22,40,43,877/- has been provided during the year which comes to approximately 14.14% per annum at Simple rate. In absence of Proper Calculation Sheet, we are unable to offer our Comments on correctness of interest provided.</p>	

7.4	During the financial year 2012-13, a sum of 5,00,00,000/- has been received from Government of Jharkhand. No Interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on unsecured loans, we are unable to offer our Comments on correctness of interest provided.	The amount represent advance for construction/renovation of Chandil Project there is no clause for charging interest on such advances
8.3	Fixed Assets includes a sum of 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.	Lease agreement related to leasehold land is not available, hence not amortized.
8.5	Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act, 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging of Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.
8.6	Fixed Assets also includes a sum of 1,35,82,177.00 under Powerhouse at Dehri, which comprises of cost of pump amounting to 27,98,515.00, payment to consultant (BHEL) for supervision of repair work amounting to 1,02,63,213.00 and payment to other consultant for service charges, which was capitalised during Financial Year 2009-10. It appears that is was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 amount should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of	The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.

	Accumulated Loss with consequential effect on charge of depreciation.	
8.7	Fixed Assets also includes a sum of 1,23,71,057/- being the amount of Entry tax, Royalty, etc, related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
8.8	Fixed Assets also includes a sum of 2,72,76,511/- being the amount of Entry tax related to procurement of goods during the financial years 2007-18 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.
8.9	Fixed Assets also includes a sum of 36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.
8.10	Fixed Assets includes a sum of 58,50,642/- being the amount paid through Running Account bill and capitalized during the financial Year 2010-11 and no	The assets still not completed and it was in work-in-progress hence it was not capitalised

	<p>final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	
8.11	<p>Fixed Assets includes a sum of 25,74,696/- (Construction of Escape Regulator) and 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial Year 2011-12 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	<p>The assets was not completed upto the end of the financial year hence it was in work in progress and not capitalized.</p>
8.12	<p>A sum of 9242/- has also been noticed as addition to fixed assets in the Financial Year 2011-12 under Office Equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.</p>	<p>The value of assets is more than Rs 5000 hence same has been capitalized.</p>
8.13	<p>Fixed Assets does not includes a sum of 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, Two Vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of Vehicle/ Advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of Fixed Assets, also understatement of Accumulated Loss with consequential effect on charge of depreciation and</p>	<p>Vehicle purchase and invoice received during the financial year 2009-10.</p>

	overstatement of Advance to Supplier.	
8.14	Fixed Asset does not include a sum of 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non- Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.	Since usefull life of this goods is very short period and it is being replace year to year hence charged to revenue.
8.15	Fixed Assets includes a sum of 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final bill were submitted by the Contractor. A sum of 73,64,292/- has been charged as Depreciation against this project. This has resulted in Overstatement of fixed assets by t 15,03,46,125/- as well as t 73.64.292/- of Loss for the year and Accumulated Loss and understatement of Capital work in Progress by 15,77.10.417/-.	The project was completed hence depreciation has been charged
8.16	Fixed Assets also includes a sum of 77,23,260/- under Jainagara Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.	The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.
8.17	Fixed Assets includes a sum of 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial year 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor

	resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier years.	
8.18	Fixed Assets includes a sum of 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012- 13 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further No depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of Capital Work in Progress.	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor.
8.19	Fixed Assets also includes a sum of 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of Spares, Maintenance Expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.	The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.
8.20	Fixed Assets includes a sum of 2,69,86,270/- (86,72,658/- Electric Equipment at Agnoor, 80,42,114/- Electric Equipment at Belsar, 164,80,000/- Electric Equipment at Alwar, 32,13,800/- Electric Equipment and 5,77.698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It was noticed that capitalization of asset	Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor

	<p>was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	
8.21	<p>Fixed Assets also includes a sum of 1,41,61,346/- (62,779/- at Belsar, 187335/- at Arwal, 11263660/- at East Gandak, *2580820/- at Koshi 19800/- at Sone Eastern and 46952/- at shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS 10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
9.1	<p>Capital Work in Progress consists of Assets under construction installation / acquisition amounting to 1,36,69,74,071/- and Development Expenditure including borrowing cost amounting to 2,79,20,96,069/- . Besides negative balance under the head of Land at Triveni amounting to 10,19,922/- and 1,03.73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ? 63,27,03.539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.</p>	<p>There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31st March, 2014. The details of development expenditure is available.</p>
9.2	<p>Negative balance under the head of Electric Equipment and Fabrication amounting to 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011- 12. Similarly 99,76,904/- were</p>	<p>The amount of negative balance under these head is not due to over charging of depreciation the reason for the same is inter</p>

	noticed under the head Electric Equipment (Belsar) due to over Capitalisation during the current Financial Year. Reason of negative balance could not be explained.	transfer of different head under the capital work in progress.
9.3	Capital Work-in-Progress includes both tangible and intangible assets amounting to 6435.83 Lakhs which are appearing since long without any Progress. Further, it also includes which are expenses incurred but it has benefited for a small time like dewatering of Pit-I (9717966/-), dewatering at Walidad (48,40,000/-), Excavation work in Progress (243680/-), etc. Hence a thorough technical review of the position of these Assets under Construction / Development Expenses is called for and in the absence of such review, we are unable to comment on it's future usability and it's continuation at book value as it includes condemned and very old items which due to lapse of time or otherwise may not be used and required to be written off.	The amount of Capital-work-In progress as reflected in financial statements is related to different projects which was still in progress for the period ended on 31 st March-2014 hence same has not been written off.
9.4	In absence of detail, amount outstanding under the head Project Report/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.	The amount outstanding under the head project repost/ preliminary expenses is related to different projects which was still in progress for the period ended on 31 st March-2014 hence same has not been written off.
9.5	During the Financial Year a sum of 2.49,46,865/- related to Head Office Expenses and apportionment of interest has been allocated to upcoming projects and no any other development/ activity were made on these Projects. Thus till now a sum of? 8,39.73.834/- has been apportioned on these projects towards interest and Head office Expenses without doing any activity. In view of no activity at these projects it was not proper to allocate Head Office Expenses to such projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the projects whose work is not in progress
9.6	During the current year a sum of 51.96.752/- related to Head Office Expenses and apportionment of interest has been allocated to projects situated in the State of Jharkhand and no any other development / activity were made on these Projects. In view of no activity at these projects it was not proper to allocate Head Office	The amount incurred in the head office is not only related to generating units. It is also related to the projects which are under work in progress hence expenses of head office is allocated to the

	Expenses on these projects resulting understatement of revenue expenditure / loss of the year with corresponding overstatement of capital expenditure.	project whose work is not in progress.
9.7	We have noticed that in compliance of Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.-19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilisation of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as Income of the Head Office. It is Contrary to the Accounting Standard -16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance of Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.	Same was charged to Capitalized and Credit to Income Account as and when required.
9.8	Accounting Policy disclosed in Notes 2.11 and 2.12 of Note No.- 19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.	Such calculation is available.
9.9	We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as these papers were not made available to us.	Same was still pending with Government of Bihar
9.10	Capital-work in Progress includes a sum of 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.	Such amount is paid against the project which was still in progress for the period ended on 31 st March 2013 hence it has been shown under the capital work in progress.

9.11	Capital Work in Progress includes a sum of 16.70.837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the Year without any allocation of the Unit.	This amount is related to Chandil H.E. Project (Jharkhand)
9.12	Capital Work in Progress includes a sum of 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.	The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity .
9.13	A sum of 52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and D.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.	The amount of consultancy fee during the year for preparation of feasibility report and DPR is in the nature of revenue and charged to P/L account.
9.14	Figures reflected in Financial Statements for Capital Work in Progress does not tally with Figures reflected in Head Office books in some cases. Also it does not tally with closing balance reflected in previous financial year.	The qualification is not clear about difference in particulars head, Hence it is not possible to give observation on such qualification
9.15	Capital Work in Progress includes a sum of 2,83,91,502/- which has been reflected as the cost of Land after transfer of *1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque/refund of advances, Which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.	Transaction related to this qualification is not traceable from books of accounts.
10.1	It includes 53,44,398/- being value of materials issued to contractors and is outstanding since long. As	The amount of Materials issue to contractor Rs. 53,44,398/- need

	explained, materials have been utilized but in absence of necessary documents it remains unadjusted.	to be adjusted in forth coming year.
10.2	Inventories includes Capital Stores amounting to 67,78,250/- which requires thorough technical review of the position of non- moving/ obsolete/ unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.	The amount of capital store is procured during the recent year hence outstanding as on 31 st March 2014.
10.3	Inventories includes a sum of 23,896/- being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to 67,787/-. Considering it's future usability, in our opinion these should be charged to revenue.	Management is in process of locating nature of these expenses and it will be treated as revenue after proper allocation.
10.4	A difference of 86,196/- was noticed in the previous years in stationery in stock. During the current financial year no entry for purchase and consumption of stationary was passed under this account head. This has resulted in Understatement of stamp in hand by 86,196.00 excluding the value of stationery consumed during the current financial year out of opening stock and overstatement of expenses/loss.	
11	Sundry Debtors: Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not fully reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in FY 2010-11 clearly reflects a huge gap between the outstanding realisable amount in books of Corporation (1757.10 Lakh) and is not realisable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to Katalya Project we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Loss and Overstatement of Sundry Debtor. Further, in bank	Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.

	Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.	
12.1	Confirmation related to balance on 28/03/2014 in Public Ledger Account No. 8448 was produced before us, which reflects that this account was not operated since 12/08/1988 and last balance was being 3,00,14,620/-, whereas 14,620/- shown in company books. Reconciliation Statement/Reason for such a huge difference was not produced before us. A sum of 31,78,97.620/- transferred to this account on 31 March,2014 but statement related Public Ledger Account was not produced before us.	P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.
12.5	A difference of 3403/- was noticed in the previous years in stamp in hand. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. This has resulted in overstatement of stamp in hand by 3,403.00 excluding the value of stamp consumed during the current financial year out of opening stock and understatement of	During the year 2012-13 stamp value equal to Rs. 12686/- was in hand and stamp value of Rs. 12686/- was in hand as on 31st March 2014.
13.2	Loans and Advances include balances which are revenue in Nature. e.g. Insurance Advance 72,206/- Advance for Advertisement 3.15,555/-. Guest house Rent (Pre-Paid Expenses) 10,000/-, L.T.C Advance 56,758/-, T.A. Advance 16,85,216/-, Legal Advance 14,89,691/, Transfer Travelling Advance 69,372/- Consultancy Advance 44.250/-, Temporary Advance 95,27,857/- etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.	Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31 st March 2014 and is adjusted after receiving invoice or adjustment voucher from year to year.
13.3	Loans and Advances include a sum of 1,34,15,973/- towards advance to staff comprising 9,74,918/- towards Salary Advance, 48,141/- towards marriage advance, 81,976/- towards House Building Advance, 4,02,710/ towards Medical Advance, etc where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may	Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31 st March 2014 and is adjusted after receiving invoice or adjustment voucher from year to year.

	be cases where employees were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances.	
14.1	Sundry Creditors amounting to 158.59 lakh consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.	Since there is large number of vender associated with the corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.
14.2	Nature of 1,15,00,000.00 shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.	This amount was received from Irrigation Department to construct canal / Gate related to Sone Western H.E. Project, Dehri since this amount was unspent for upto the period on 31.03.2014 hence it was showing as outstanding.
14.3	Liability includes a sum of 1,77,421/- (Credit) towards Gratuity liability. No Expenses were recognised for 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C. and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by 1.94,224/-	The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities
14.4	Current Liabilities include a sum of 4,90,432/- being amount of Audit Fee payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Years and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non-compliance of Schedule- III to the Companies Act,2013. Also the differential amount of Audit Fee for the Year has resulted into Understatement	The amount of Rs. 1,79,304/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee and statutory audit fee Rs. 1,12,360/- which are bi furcated in books of account

	/ Overstatement of Loss as well as Liability which are in absence of proper information cannot be quantified.	
14.5	Current Liabilities include a sum of 45,31,253/- being the amount of Interest accrued on PFC Loan. The amount was outstanding since long. During the financial year 2011-12 a sum of 13.62 crore was paid by charging it to Expenses account without utilising the outstanding liability. Hence the liability is no longer required and should be written back and hence loss for the year as well as liability is overstated to that extent.	It will be adjusted in due course.
15.1	A sum of 13,07,870/- (P.Y. 56,22,020/-) was paid during the year to parties for Survey & Investigation of alternate energy in Rural Area which was done on behalf of Government and against which a sum of 10,94,92,500/- received during the year. The Expenses incurred on this project should have been adjusted with this amount along with the expenditure made under this project in earlier years total amounting to 1,05,59,620/- (amount adjusted and balance refunded in financial year 2020-21). but the same has been treated as expenses for the year, which resulted into overstatement of expenses as well as overstatement of Accumulated Loss by t 1,05,59,620/- and understatement of Current Assets.	The amount is not since to be receivable from Government in near future hence it is charged to P/L Account. As soon as it will become receivable or receipt it will be treat as income
15.2	In absence of details of Bank Reconciliation Statements for all Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.	Bank statement was made available during the course of audit of those bank accounts which were in operation and statement was available from Bank
15.3	Agreement with Bihar State Electricity Board was not available to verify the rate at which sale of energy is made to them.	Same is available
15.4	The Corporation was contributing to Life Insurance Policy for Gratuity Liability of it's Employees. During the Current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it. A sum of 13,41,873/- related to Calendar Year 2013 was debited under this account head which should have been charged to Prior Period Expenses. In absence of proper details about liability, we are unable to quantify the amount through which the Loss for the Year, Accumulated Loss and Liability were understated.	Due to retirement of many employees in different period the actual amount payable to LIC is not reasonably estimated hence not provided in the books of account

	Further no provisions were made for other terminal benefits.	
15.5	A sum of 54,62,759/- being the expenses related to Prior period were directly adjusted with Accumulated Loss without routing through Statement of Profit & Loss. This has resulted into understatement of Loss for the year.	The amount is related to prior period and not effecting profit or loss for the current period. Hence it is directly adjusted with accumulated loss.
15.6	No mercantile system of accounting was followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.	Provision for routine expenditure has been made in books of accounts to follow mercantile system of accounting. Sum of the expenses like printing & stationary, casual hire charge of vehicle, legal expenses and etc which are not material in nature has been accounted in books of accounts on cash basis.
15.7	Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Part II of Schedule VI of the Companies Act, 1956.	The amount of employers' contribution to provident fund is included in salary
16.1	The Company has not followed the following applicable Accounting Standards issued by the Institute of Chartered Accountants of India in Preparation of Financial Statements: Accounting Standard-1 to the extent stated in Note 2.2 of Note No.-19 to the Accounts, Accounting Standard-2 related to Valuation of Inventories, Accounting Standard-3 related to Cash Flow Statement, Accounting Standard -4 related to Contingencies and Events occurring after Balance Sheet Date, Accounting Standard-10 related to Accounting for Fixed Assets, Accounting Standard -12 related to Accounting for Government Grants, Accounting Standard -15 related to Employee Benefits, Accounting Standard-16 related to Borrowing Cost, Accounting Standard-17 related to Segment Reporting, Accounting Standard-18 related to Related Party Disclosures, Accounting Standard-28 related to Impairment of Assets and Accounting Standard-29 related to Provisions, Contingent Liabilities and Contingent Assets.	The company has followed accounting standard in preparation and presentation of financial statement relating to F.Y. 2013-14 as an when required.
16.2	During the current Financial Year changes were made in booking of expenses related to Printing & Stationery,	The amount of printing & stationary as well as stamp

	Consumption of Stamp, etc without its disclosure in NOTES ON ACCOUNTS and it's impact on Loss for the year and resulted into non Compliance of Accounting Standard-5- "Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies".	purchase during the year consumed in the same year. Hence it is not shown in hand and charge to profit & loss account in the year 2013-14.
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Statutory Auditor's comments	Management Reply
Annexure-“A” to the Independent Auditor's Report (Refer to in para-4, under 'Basis of Qualified Opinion' of our Report of even date on accounts for the year ended 31 st March, 2015)	
<i>1.01 In the following cases, the different accounting standards issued by the institute of chartered accountants of India have not been followed: -</i>	
<i>(a) Accounting Standard-1 to the extent stated in Point No. 2 (Basis of accounting) of Note No. -19 to the Accounts.</i>	The amount of salary including arrear salary is provided in financial statements to the extent ascertainable further provision in respect of pension is not made in books of accounts because it is not the liabilities of company.
<i>(b) The Company has not disclosed the accounting policies followed in the valuation of stock. This is contrary to the provisions of AS-2.</i>	The same has been disclosed in Note No. 19 (significant accounting policies & notes on accounts)
<i>(c) The Company has not disclosed the accounting policies followed in the Accounting Standard-4 related to Contingencies and Events occurring after Balance Sheet Date.</i>	The same has been disclosed as and when required.
<i>(d) In absence of Fixed Assets register and depreciation has not been charged as per Companies act 2013. This is contrary to the provisions of Accounting Standard-10.</i>	Since Company is engaged in power generation activity hence the rate of depreciation applied is relating to power generating units.
<i>(e) In absence of details accounting of Government Grants as per AS-12 could not be verified.</i>	During the financial year no grant has been received. Accounting policy related to Govt. Grants is disclosed in Note No. 19.
<i>(f) Accounting Standard-15 to the extent stated in Point No. 2 (Employee Benefits) of Note No. -19 to the Accounts.</i>	Accounting Standard-15 related to employees benefit has been followed to the extent Gratuity, Provident Fund & Family pension fund
<i>(g) Accounting Standard-16 related to Borrowing Cost.</i>	The amount to borrowing cost has been charged on different projects relating to which the amount is borrow. Interest of common loan interest is charged to different projects on the basis of allocation of loan.
<i>(h) The Company has not disclosed the</i>	Company is primarily engaged in

<i>accounting policies Segment Reporting. This is contrary to the provisions of Accounting Standard-17.</i>	generation and selling of electricity and it is primary segment as per Accounting Standard-17
<i>(i) The Company has not disclosed the accounting policies Related Party Disclosures. This is contrary to the provisions of Accounting Standard-18,</i>	There is no transaction with related parties as define in Accounting Standard -18
<i>(j) The Company has not disclosed the accounting policies Impairment of Assets. This is contrary to the provisions of Accounting Standard-28</i>	
<i>(k) The Company has not disclosed the accounting policies Provisions, Contingent Liabilities and Contingent Assets. This is contrary to the provisions of Accounting Standard-29.</i>	As per information given by legal section
<i>(l) Details of any pending legal/disputed cases as on 31.03.2015 could not be made available to us for our verification. Hence, we are unable to comment about contingent liability; if any</i>	As per information given by legal section there is no <i>any pending legal/disputed cases as on 31.03.2015</i>
1.02 <i>Financial statements of the company does not comply with following:</i>	
<i>(a) As per information and explanations produced by the company, many high value transactions of transactions of transfer of fund from / to Auto Sweep Term Deposit Accounts to / from Bank account, interest on Term Deposit, Receipt from Debtors/ Bihar State Power Holding Corporation, amount deducted by Bank towards TDS, Interest / Bank Charges debited by Bank not accounted in Bank Book and still outstanding in Bank Reconciliation Statement in some of the accounts. Bank reconciliation statement/Bank statement/Balance confirmation certificate in some of the bank accounts, Cash/Bank/Journal voucher (Supporting invoices/Bills and documents relating to expenses /income/loan documents, Cheque issue register and Statement of valuation of closing stocks (Source documents),</i>	Proper books of accounts as per provision of Companies Act. 2013 is maintain as same was provided during the course of audit.

<p><i>physical verification Report of Fixed Assets, Physical verification report of Inventory have not been provided to us in the course of audit. Similarly, EMD refunded to Contractors were debited in different account and not adjusted with outstanding EMD Liability, Amount of Liability of Contractors credited in different account whereas advance to same contractor is outstanding in different account. Non-matching of Advance to Suppliers/ Contractors with Creditors account, Non-reconciliation and non adjustment of resultant errors, if any, of very high value of such Debit/Credit balances, non-maintenance of Age-wise details of very high value such balances, non maintenance of Fixed Assets Register, etc. Also in some of the cases closing balances reflected in books as on 31/03/2014 is different from opening balances reflected as on 01/04/2014. Considering all these above and also as reported in para-1.08(b), para-1.08(c) and para-1.11(h) below, in our opinion proper books of account as required by law have not been kept by the Company so far as appears from our examination of those books;</i></p>	
<p><i>(b) Schedules of Balance sheet (Assets & Liabilities) items could not be made available to us for verification.</i></p>	<p>Same was provided during the course of audit.</p>
<p><i>(c) In our opinion, the Balance Sheet and Statement of Profit and Loss have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent as applicable and except as stated above as well as elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).</i></p>	<p>Comments not applicable.</p>

<p>1.03 as referred in Note no. 19 para-18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.</p>	<p>Comments not applicable</p>
<p>1.04 <u>Going Concern Assumption:</u> The accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.</p>	<p>Comments not applicable</p>
<p>1.05 <u>Reserves and Surplus:</u> <u>₹ (-) 2,28,30,64,855.61</u> (a) Reserve and Surplus includes Capital subsidy/ Grant in Aid ₹29,30,08,000.00 as on 31.03.2015. During the year no Capital subsidy/ Grant in Aid has been received under this head. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2 (Government Grants) of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in related projects resulting overstatement of Fixed Assets with corresponding overstatement of Capital subsidy/ Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.</p>	<p>No Capital subsidy or Grant in Aid received during the year.</p>
<p>(b) As per previous audit report for the Financial Year 2013-14 difference of ₹ 131.63 Lacs between Specific Project wise Grant and Control Ledger in the account</p>	<p>There is no difference between Specific Project wise Grant and Control Ledger</p>

<p><i>head Grant in Aid were reported. Reason and Correctness of this difference has not been explained to us.</i></p>	
<p>1.06 Long-term Borrowing: <u>₹ 9,51,63,82,089.30</u></p>	
<p><i>(a) During the year a sum of ₹ 10,00,00,000/- has been Received from Government of Bihar. Total loan as on 31.03.2015 comes to ₹ 2,23,08,99,000/-. Neither Sanctioned letter not calculation sheet of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 26,77,99,747.00 and penal interest provided amounting to ₹ 5,32,72,475.04 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.</i></p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p><i>(b) During the year a sum of ₹ 50,62,07,000/- has been Received from Government of Bihar under RIDF(NABARD) scheme. Total loan under this schme as on 31.03.2015 comes to ₹ 2,43,33,83,000/-. Neither Sanctioned letter nor calculation sheet of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 20,43,84,178.03 and penal interest provided amounting to ₹ 4,81,79,400.02 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.</i></p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p><i>(c) The Corporation has defaulted in repayment of Loan received from Govt. of Bihar under RIDF (NABARD) scheme and other Loans. In absence of calculation it could not be ascertained correctness of liability on account of penal interest for delayed repayment has been provided or not.</i></p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p><i>(d) Long-term borrowing includes loan from Government of Jharkhand carrying same balance from previous year amounting to ₹5,00,00,000/-. No interest on such Loan has been provided in the books of accounts. In</i></p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>

<i>absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on loans, we are unable to offer out Comments on correctness of interest provided.</i>	
<i>(e) During the year 2014-15 loan taken by the corporation not mentioned in Note:3.</i>	Details of loan taken during the financial year 2014-15 was made available during the course of audit.
<u>1.07 Fixed Assets: ₹ 1,55,34,44,468.16</u>	
<i>(a) Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard – 10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.</i>	Copies of title deeds of land is available in respective projects and no requisition was made by auditor to provide the same during the course of audit
<i>(b) During the Financial year 2011-12 a sum of ₹ 27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper documents/ Title Deeds were not made available to us for verification.</i>	Amount paid during the year 2011-12 was related to balance amount against land acquisition and copies of title deeds of land is available in respective projects and no requisition was made by auditor to provide the same during the course of audit
<i>(c) Fixed Assets includes a sum of ₹ 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.</i>	Lease agreement related to leasehold land is not available, hence not amortized.
<i>(d) Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act., 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for</i>	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

<p><i>charging Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.</i></p>	
<p><i>(e) Fixed Assets also includes a sum of ₹ 1,35,82,177/- under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515/-, payment to consultant (BHEL) for supervision of repair work amounting to ₹ 1,02,63,213/- and payment to other consultant for service charges, which was capitalized during Financial Year 2009-10. It appears that is was a case of repairs and maintenance it did not increased the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 amount should not be added to Fixed Assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.</p>
<p><i>(f) Fixed Assets also includes a sum of ₹ 1,23,71,057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.</p>
<p><i>(g) Fixed Assets also includes a sum of ₹ 72,76,511/- being the amount of Entry Tax related to procurement of goods during the</i></p>	<p>The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and</p>

<p><i>financial year 2007-08 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is ₹ 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>when required.</p>
<p><i>(h) Fixed Assets also includes a sum of ₹ 36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection Charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.</p>
<p><i>(i) Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through running account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The assets still not completed and it was in work-in-progress hence it was not capitalised</p>
<p><i>(j) Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and ₹ 15,05,506/- (Construction of Escape Channel) being the amount paid through Running</i></p>	<p>The assets was not completed upto the end of the financial year hence it was in work in progress and not capitalized.</p>

<p><i>Account bill and capitalized during the financial year 2011-12 as Plant & Machinery and no final bill were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	
<p><i>(k) A sum of ₹ 9,242/- has also been noticed as addition to fixed assets in the financial year 2011-12 under office equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.</i></p>	<p>The value of assets is more than Rs 5000 hence same has been capitalized.</p>
<p><i>(l) Fixed Assets does not includes a sum of ₹ 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, two vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of vehicle/advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of fixed assets, also understatement of Accumulated loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.</i></p>	<p>Vehicle purchase and invoice received during the financial year 2009-10.</p>
<p><i>(m) Fixed Assets does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non- Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with</i></p>	<p>Since usefull life of this goods is very short period and it is being replace year to year hence charged to revenue.</p>

<p><i>consequential effect on charge of depreciation.</i></p>	
<p><i>(n) Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final bill were submitted by the Contractor. A sum of ₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in overstatement of fixed assets by ₹ 15,03,46,125/- as well a ₹ 73,64,292/- of loss for the year and Accumulated loss and understatement of Capital work in progress by ₹ 15,77,10,417/- .</i></p>	<p>The project was completed hence depreciation has been charged</p>
<p><i>(o) Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.</i></p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p><i>(p) Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial ear 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor</p>

<p><i>understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier year.</i></p>	
<p><i>(q) Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012-13 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital work in progress in books of accounts of the until It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further no depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of capital work in progress.</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor.</p>
<p><i>(r) Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of spares, maintenance expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p><i>(s) Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance</p>

<p><i>Equipment at Belsar, ₹64,80,000/- Electric Equipment at Alwar, ₹ 32,13,800/- Electric Equipment and ₹ 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year 2012-13. It was noticed that capitalization of assets was made in earlier year without adjustment of advance made to the contractor/ without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>of contractor</p>
<p><i>(t) Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹6,277/- at Belsar, ₹1,87,335/- at Arwal, ₹ 1,12,63,660/- at East Gandak, ₹25,80,820/- at Koshi ₹ 19,800/- at Sone Eastern and ₹ 46,952/- at Shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard A-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p><i>(u) Fixed Assets includes a sum of ₹ 47,31,729/- under Electric Installation at Dehri Unit, being the amount of adjustment of advance made to the contractor in earlier year/ balance payment of the contractor related to the project completed in earlier year but adjusted and capitalised during the financial</i></p>	<p>The assets is completed and put to use 2012-13 hence it is capitalised in financial year 2012-13</p>

<p><i>year 2012-13. It includes many items which are revenue in nature and should have been charged to revenue expenditure. It was also noticed that major part of capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	
<p><i>(v) Fixed Assets also includes a sum of ₹ 27,604/- under Office Equipment at Head Office during the Financial Year 2013-14, which comprises of cost of Battery, Key Board, Pen Drive etc., which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>It will be taken care to charge to profit & loss account instead of capitalization.</p>
<p><i>(w) Fixed Assets also includes a sum of ₹ 63,252.00 under Electric Installation at (Shrikhinda unit and Sone Western unit) during the Financial Year 2014-15, which comprises of cost of Battery, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>It will be taken care to charge to profit & loss account instead of capitalization.</p>
<p>1.08</p>	<p><u>Capital Work in Progress:</u></p>

<u>₹ 5,15,99,20,896.97</u>	
<p>(a) <i>Capital Work in Progress consists of Assets under construction/ installation/ acquisition amounting to ₹ 1,63,39,574,369.61 and Development Expenditure including borrowing cost amounting to ₹3,52,03,8,46,527.36. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922.00 an ₹1,03,73,276.00 at E.M. Jainagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.</i></p>	<p>There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31st March, 2015. The details of development expenditure is available.</p>
<p>(b) <i>Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation in Financial Year 2013-14. Reason of negative balance could not be explained.</i></p>	<p>The amount of negative balance under these head is not due to over charging of depreciation the reason for the same is inter transfer of different head under the capital work in progress.</p>
<p>(c) <i>Project Status of 26 under construction units could not be made available to us. In many under construction units amount appearing since long without any Progress. transactions during the year comprise only allocation of interest, head office expenses and depreciation only. In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above.</i></p>	<p>No such requisition was made by auditor during the course of audit hence same was not made available. We have relevant documents and proper details relating to all 26 units</p>
<p>(c) <i>In absence of detail, amount outstanding under the head Project Report Survey and consultancy Charges/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent</i></p>	<p>The amount outstanding under the head project repost/ preliminary expenses is related to different projects which was still in progress for the period ended on 31st March-2015 hence same has not been</p>

<i>capital work in progress is overstated with corresponding understatement of accumulated loss.</i>	written off.
<i>(d) We have noticed that in compliance of Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilization of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as income of the Head Office. It is Contrary to the Accounting Standard-16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.</i>	Same was charged to Capitalized and Credit to Income Account as and when required.
<i>(e) Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.</i>	Such calculation is available.

<i>(f) We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost</i>	Same was still pending with Government of Bihar
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<p><i>incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as theses papers were not made available to us.</i></p>	
<p><i>(g) Capital-Work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.</i></p>	<p>Such amount is paid against the project which was still in progress for the period ended on 31st March 2013 hence it has been shown under the capital work in progress.</p>
<p><i>(h) Capital work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the year without any allocation of the Unit.</i></p>	<p>This amount is related to Chandil H.E. Project (Jharkhand)</p>
<p><i>(i) Capital Wok in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.</i></p>	<p>The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity .</p>
<p><i>(j) A sum of ₹ 52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and S.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.</i></p>	<p>The amount of consultancy fee during the year for preparation of feasibility report and DPR is in the nature of revenue and charged to P/L account.</p>

<p>(k) <i>Capital Work in Progress for the financial year 2013-14 includes a sum of ₹ 2,83,91,502/- which has been reflected as the cost of Land after transfer of ₹ 1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque / refund of advances, which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.</i></p> <p><i>In absence of project status report, subsidiary ledger, RA bills and other relevant documents, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>Transaction related to this qualification is not traceable from books of accounts.</p>
<p>1.09 <u>Inventories: ₹ 1,25,36,522.99</u></p>	
<p>(a) <i>It includes ₹ 53,41,210.56 being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilized but in absence of necessary documents it remains unadjusted.</i></p>	<p>It is adjusted in future year.</p>
<p>(b) <i>Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires though technical review of the position of non-moving/ obsolete /unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.</i></p>	<p>The amount of capital store is procured during the recent year hence outstanding as on 31st March 2015</p>
<p>(c) <i>Inventories includes a sum of ₹ 23,895.68 being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹ 67,787.11 Considering it's future usability, in our opinion theses should be charged to revenue.</i></p>	<p>Management is in process of locating nature of these expenses and it will be treated as revenue after proper allocation.</p>
<p>(d) <i>Capital Stores and Stationery items ₹67,78,250.80 and ₹ 3,24,908.84 respectively same balance is outstanding since opening. During the current financial year no entry for purchase and consumption of stationary was passed under this account head.</i></p> <p><i>In absence of inventory register and</i></p>	<p>The amount of capital store is procured during the recent year hence outstanding as on 31st March 2015.</p>

<p><i>relevant documents, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	
<p><u>1.10 Trade Receivables: ₹ 25,42,88,756.00</u></p>	
<p><i>Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y. 2010-11 clearly reflects a huge gap between the outstanding realizable amount in books of Corporation (₹ 1,757.10 Lakh) and is not realizable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to kataiya Project, we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.</i></p>	<p>Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.</p>
<p><u>1.11 Cash & Bank Balance: ₹ 1,08,67,05,695.04</u></p>	

<p>(a) <i>Public Ledger Account with SBI Secretariat Branch amounting ₹31,78,97,620.00 outstanding since preceding year. As per information given by the management this account was not operated since long but statement & confirmation certificate related to Public Ledger Account was not produced before us.</i></p> <p><i>In absence of account statement and confirmation certificate, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.</p>																								
<p>(b) <i>Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many bank Accounts of Units and One Bank Account of Head Office were not operated since many years.</i></p> <p>Bank Reconciliation Statement have not been made available to us:</p> <table border="1"> <thead> <tr> <th><i>Name of Bank</i></th><th><i>Balance as on 31.03.2015</i></th></tr> </thead> <tbody> <tr> <td><i>Bank of India (HO)</i></td><td><i>63,70,24,885.52 Dr.</i></td></tr> <tr> <td><i>Punjab National Bank (HO)</i></td><td><i>1,98,487.05 Cr.</i></td></tr> <tr> <td><i>P.K.Gramin Bank (Mandal)</i></td><td><i>3,360.80 Dr.</i></td></tr> <tr> <td><i>SBI (Lower Ghaghri)</i></td><td><i>5,000.00 Dr.</i></td></tr> <tr> <td><i>SBI (Mandal)</i></td><td><i>17,728.62 Dr.</i></td></tr> <tr> <td><i>SBI (Netarhat)</i></td><td><i>96,120.00 Dr.</i></td></tr> <tr> <td><i>SBI (Ranchi)</i></td><td><i>199.91 Dr.</i></td></tr> <tr> <td><i>SBI(Sadni)</i></td><td><i>4,112.00 Dr.</i></td></tr> <tr> <td><i>State Bank Of India (SE)</i></td><td><i>25,130.72 Dr.</i></td></tr> <tr> <td><i>State Bank of India (TBHEP)</i></td><td><i>20,894.65 Dr.</i></td></tr> <tr> <td><i>Syndicate Bank (Sadni)</i></td><td><i>5,000.00Dr.</i></td></tr> </tbody> </table>	<i>Name of Bank</i>	<i>Balance as on 31.03.2015</i>	<i>Bank of India (HO)</i>	<i>63,70,24,885.52 Dr.</i>	<i>Punjab National Bank (HO)</i>	<i>1,98,487.05 Cr.</i>	<i>P.K.Gramin Bank (Mandal)</i>	<i>3,360.80 Dr.</i>	<i>SBI (Lower Ghaghri)</i>	<i>5,000.00 Dr.</i>	<i>SBI (Mandal)</i>	<i>17,728.62 Dr.</i>	<i>SBI (Netarhat)</i>	<i>96,120.00 Dr.</i>	<i>SBI (Ranchi)</i>	<i>199.91 Dr.</i>	<i>SBI(Sadni)</i>	<i>4,112.00 Dr.</i>	<i>State Bank Of India (SE)</i>	<i>25,130.72 Dr.</i>	<i>State Bank of India (TBHEP)</i>	<i>20,894.65 Dr.</i>	<i>Syndicate Bank (Sadni)</i>	<i>5,000.00Dr.</i>	<p>Bank reconciliation statement relating to most of the operating accounts was made available during the course of audit.</p>
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Bank Statement have not been made available:

Name of Bank	Balance as on 31.03.2015
Bank of India (Tax Account)	18,363.00Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	4,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.
Syndicate Bank (Sadni)	5,000.00Dr.

Bank statements relating to most of the operating accounts was made available during the course of audit. Incase of sum of the Bank Accounts maintained state in Jharkhand which is inoperating since long time and old balance is being carry forward in absence of non arability of Bank Statements

Balance Confirmation Certificate have not been made available:

Name of Bank	Balance as on 31.03.2015
Bank of India (Tax Account)	18,363.00 Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	1,98,487.05 Dr.
State Bank of India (HO)	22,29,304.72 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
Bank of India (Sakchi)	34,71,032.96 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Dehi)	4,82,167.06Dr.
S.B.I (Koshi)	22,760.50 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI-Madhepura	8,91,873.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	4,112.00 Dr.
SBI Triveni Link	1,95,760.00 Dr.
SBI (Valmikinagar)	18,07,372.05 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.
Syndicate Bank (Sadni)	5,000.00Dr.

Bank confirmation certificate relating to most of the operating accounts was made available during the course of audit.

(c) In Case of Operating Bank Accounts, in some cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even

We are in process of adjusting old entries lying in Bank Reconciliation Statement.

<p><i>movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit, TDS deducted by Bank, fund received from Sundry Debtor (South Bihar Power Distribution Company Limited), (Bihar State Power holding Corporation) were not recorded and are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.</i></p>	
<p><i>(d) Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us. Also in Bank Reconciliation Statement a large number of high value transactions of transfer from Current Account to / from Auto Sweep Account from / to current account were noticed as un-responded by the Company. It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.</i></p>	<p>Fixed deposit register was made available during the course of audit. Deposit receipts of old years is not available because same was submitted to Bank at the time of encashment of deposit.</p>
<p><i>(e) Stamp in hand amounting to ₹ 12,686/- same balance carried since previous year. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. Copy of physical verification as on 31.03.2015 could not made available to us for our verification. In absence of relevant documents/proper details, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>During the year 2012-13 stamp value equal to Rs. 12686/- was in hand and stamp value of Rs. 12686/- was in hand as on 31st March 2015.</p>
<p><i>(f) Calculation sheet of interest provision was not available.</i></p>	<p>Same was made available during the course of audit.</p>
<p><i>(g) Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.</i></p>	<p>It will be adjusted in future year.</p>
<p><i>(h) Cash in hand balance includes negative balance of ₹ 5,629/- at Chandil Unit. It clearly indicates that accounting entries were passed without considering the physical verification of assets as Cash in Hand cannot be negative. This has also</i></p>	<p>It will be adjusted/reconcile in future year.</p>

<i>resulted into understatement Cash and Bank Balance and overstatement of current liabilities.</i>	
<i>(i) No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income / interest accrued as well as balances in short term deposit.</i>	It is adjusted as when required.
1.12 Short-term Loans & Advances: ₹ 56,54,61,167.65	
<i>(a) Advance Recoverable in cash includes ₹ 48.51 crore advances to suppliers/contractors and ₹ 0.18 crore other recoverable from contractors/ employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance / advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc., which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.</i>	Advances are outstanding since very long time and management is in process of tracking those advances with related expense so that it can be adjusted in future.
<i>(b) Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206.00, Advance for Advertisement ₹ 3,15,555.00, Guest house Rent (Pre-Paid Expenses) ₹ 10,000.00, L.T.C. Advance ₹ 46,323.02, T.A. Advance ₹17,03,431.84, Legal Advance ₹ 14,69,191.00, Transfer Travelling Advance ₹30,358.47. Consultancy Advance ₹ 88,250/-, Temporary Advance ₹ 58,34,007.91, Leave Salary ₹ 3,021.50</i>	Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31 st March 2014 and is adjusted after receiving invoice or adjustment voucher from year to year.

<p><i>etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.</i></p>	
<p><i>(c) Loans and Advances include a sum of ₹ 95,76,864.81 towards advance to staff comprising ₹ 1,43,093.77 towards Salary Advance, ₹ 77,775.90 towards marriage advance, ₹ 33,867.80 towards House Building Advance, ₹3,51,049.14 towards Medical Advance and Pay Advance ₹ 4,04,772.00 etc., where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employee were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisibility of these staff advances.</i></p>	<p>Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31st March 2015 and is adjusted after receiving invoice or adjustment voucher from year to year.</p>
<p><i>(d) Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source, etc being ₹ 1,95,17,220.96 considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non-refund could not be explained.</i></p>	<p>We are in process the reconciling the same and we will be adjusted after reconciliation,</p>
<p><i>(e) During the year a sum of ₹ 26,67,885.00 has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹2,44,66,094.00. it seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹ 36,780/- received in preceding Financial Year not linked with proper account. In absence of FD ledger/FD statements/interest calculation sheet and other related documents we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>The amount of Income Tax deducted is accounted in the books of account for the basis of Form 26AS</p>
<p><i>(f) Advance for land acquisition amounting to ₹ 5,00,000/- outstanding since long remains to be adjusted/ recovered.</i></p>	<p>It is very old balance lying in books of account and management is in process of tracking the same.</p>

<p>(g) <i>Loans and advances includes a sum of ₹ 43,17,462.10 receivable from Energy Department Govt. of Bihar, which relates to expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the department, we are unable to offer our comments on realisibility of this amount and resulting loss.</i></p>	<p>This amount resemble from Energy Department hence it is show under loan and advance</p>
<p>(h) <i>Balances of Ranchi Project Office and Inter Unit current account to ₹3,98,884.87 outstanding since long remain to be reconciled.</i></p>	<p>It is very old balance lying in books of account and management is in process of tracking the same.</p>
<p><u>1.13 Current Liabilities:</u> <u>Trade Payables: ₹1,62,62,262.91 and Other</u> <u>Current Liabilities: ₹20,60,37,761.01</u></p>	
<p>(a) <i>Sundry Creditors amounting to ₹ 1,62,62,262.91 consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.</i></p>	<p>Since there is large number of vender associated with the corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.</p>
<p>(b) <i>Nature of ₹ 1,15,00,000/- shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.</i></p>	<p>This amount was received from Irrigation Department to construct canal / Gate related to Sone Western H.E. Project, Dehri since this amount was unspent for upto the period on 31.03.2015 hence it was showing as outstanding.</p>

<p>(c) <i>Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No expenses were recognized for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is understated by ₹1,94,224/-.</i></p>	<p>The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities</p>
<p>(d) <i>Current Liabilities include a sum of ₹ 4,90,432/- being amount of Audit Fee Payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Year and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non-compliance of Schedule-III to the Companies Act., 2013. Also the differential amount of Audit Fee for the Year has resulted into understatement/overstatement of loss as well as liability which are in absence of proper information cannot be quantified.</i></p>	<p>The amount of Rs. 1,79,304/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee and statutory audit fee Rs. 1,12,360/- which are bifurcated in books of account</p>
<p><u>1.14 Profit & Loss Account:</u> <u>₹ (-) 30,08,00,420.78</u></p>	
<p>(a) (i) <i>The Expenditure under Employee Benefit Expenses (Note-15) ₹23,03,654.00, Other Expenses (Note-16) ₹2,81,41,737.56, Interest & Finance Charges (Note-17) ₹32,28,18,661.40, Depreciation (Note-18) ₹3,62,603.85 has been transferred to Capital Work In Progress (Note-7). The basis of allocation/calculation sheet of expenses transfer to Capital Work In Progress could not made available to us for our verification.</i></p> <p>(ii) <i>A sum of ₹ 2,81,41,737.56 transfer to Capital Work In Progress (Note-7) from Other Expenses (Note-16). Which transfer amount is higher than total expenditure under this head of ₹ 2,27,61,514.41. Therefore</i></p>	<p>Same was made available during the course of audit.</p>

<p><i>negative balance shown of ₹ 53,80,223.15 in Profit & Loss Account under Other Expenses (Note-16). In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above figures.</i></p> <p><i>(iii) In the head of Employee Benefit Expenses (Note-15) and Other Expenses (Note-16) Transfer to Capital Work in Progress showing Schedule 9 instead of Note-7.</i></p> <p><i>(iv) The top sheet of Profit & Loss Account Showing Schedule in instead of Note; although its Schedule part mentioned as Note No.</i></p>	
<p><i>(b) In absence of details of Bank Reconciliation Statements for many Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.</i></p>	<p>Bank reconciliation statement relating to most of the operating accounts was made available during the course of audit.</p>
<p><i>(c) Agreement with South Bihar Power Distribution Company Limited was not available to verify the rate at which sale of energy is made to them.</i></p>	<p>Same was made available during the course of Audit.</p>
<p><i>(d) The Corporation was contributing to Life insurance policy for Gratuity liability of it's Employees. During the current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it.</i></p>	<p>Due to retirement of many employees in different period the actual amount payable to LIC is not reasonably estimated hence not provided in the books of account</p>
<p><i>(e) A sum of ₹ 45,31,253.00 being the Income related to Prior Period were directly adjusted with Accumulated Loss without routing through Statement of Profit & Loss. This has resulted into overstatement of Loss for the year.</i></p>	<p>There is no impact on current year loss due such adjustment.</p>
<p><i>(f) No mercantile system of accounting was followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.</i></p>	<p>Company has followed mercantile system of accounting in relation to Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.</p>

(g) <i>Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Schedule III of the Companies Act., 2013.</i>	It will be taken care in future year. There is not materials impact on financial statement this reason
<u>1.15 Deviation from Schedule-III to the Companies Act., 2013:</u> <i>The Financial Statement prepared by the company has not followed Schedule-III to the Companies Act, 2013 properly. Security Deposit Paid and Advances given to contractors for capital works were not treated as capital advance, under Long Term Loans & Advances. Similarly Liabilities were not properly disclosed under current and Non Current Liabilities and even EMD, Securities Deposit received were treated as Current Liabilities.</i>	It will be taken care in future year.

<u>1.16 Disclosures:</u>	
(a) <i>The Company has not separately disclosed additional information in the Financial Statements as required by Notification No. GST 494(E) dated 30th October, 1973 as well as required under Schedule –III to the Companies Act, 2013 related to Sales, Employee Remuneration, Audit Expenses Prior Period Expenses, Export Turnover and other non monetary disclosure.</i>	It will be taken care in future year.
(b) <i>The management has not furnished the following information although required to be disclosed by way of a note to the accounts: Claims against the Company not acknowledged as debts. Estimated amount of contracts remaining to be executed on capital account and not provided for.</i>	It will be taken care in future year.
(c) <i>Particular of Advance: The Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.</i>	There is no such loans & advances
<u>1.17</u> <i>As explained Kosi Kataiya unit has been taken over by the company in earlier year</i>	This project was transferred to this company during the financial year 2003-04

<p><i>but adjustment of assets and liabilities including amount payable to transferor related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.</i></p>	<p>however the details relating to assets & liabilities was not made available to the company. We have recognised the assets & liabilities our books of accounts from the year of the taking over of project.</p>
<p><i>1.18 Figures mentioned in the Financial Statements did not used any Symbol. Further, figures as appearing in Financial Statements have not been Rounded off as required in Schedule III of the Companies Act'2013.</i></p>	<p>It will be taken care from future year</p>
<p><i>1.19 Observations / qualifications made by the Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.</i></p>	<p>Management is in process of adjusting the same.</p>

Statutory Auditor's comments	Management Reply
Annexure-“A” to the Independent Auditor's Report (Refer to in para-4, under 'Basis of Qualified Opinion' of our Report of even date on accounts for the year ended 31 st March, 2016)	
<i>1.01 In the following cases, the different accounting standards issued by the institute of chartered accountants of India have not been followed: -</i>	
<i>(a) Accounting Standard-1 to the extent stated in Point No. 2 (Basis of accounting) of Note No. -19 to the Accounts.</i>	The amount of salary including arrear salary is provided in financial statements to the extent ascertainable further provision in respect of pension is not made in books of accounts because it is not the liabilities of company.
<i>(b) The Company has not disclosed the accounting policies followed in the valuation of stock. This is contrary to the provisions of AS-2.</i>	The same has been disclosed in Note No. 19 (significant accounting policies & notes on accounts)
<i>(c) The Company has not disclosed the accounting policies followed in the Accounting Standard-4 related to Contingencies and Events occurring after Balance Sheet Date.</i>	The same has been disclosed as and when required.
<i>(d) In absence of Fixed Assets register and depreciation has not been charged as per Companies act 2013. This is contrary to the provisions of Accounting Standard-10.</i>	Since Company is engaged in power generation activity hence the rate of depreciation applied is relating to power generating units.
<i>(e) In absence of details accounting of Government Grants as per AS-12 could not be verified.</i>	During the financial year no grant has been received. Accounting policy related to Govt. Grants is disclosed in Note No. 19.
<i>(f) Accounting Standard-15 to the extent stated in Point No. 2 (Employee Benefits) of Note No. -19 to the Accounts.</i>	Accounting Standard-15 related to employees benefit has been followed to the extent Gratuity, Provident Fund & Family pension fund
<i>(g) Accounting Standard-16 related to Borrowing Cost.</i>	The amount to borrowing cost has been charged on different projects relating to which the amount is borrow. Interest of common loan interest is charged to different projects on the basis of allocation of loan.

<i>(h) The Company has not disclosed the accounting policies Segment Reporting. This is contrary to the provisions of Accounting Standard-17.</i>	Company is primarily engaged in generation and selling of electricity and it is primary segment as per Accounting Standard-17
<i>(i) The Company has not disclosed the accounting policies Related Party Disclosures. This is contrary to the provisions of Accounting Standard-18,</i>	There is no transaction with related parties as define in Accounting Standard -18
<i>(j) The Company has not disclosed the accounting policies Impairment of Assets. This is contrary to the provisions of Accounting Standard-28 and</i>	
<i>(k) The Company has not disclosed the accounting policies Provisions, Contingent Liabilities and Contingent Assets. This is contrary to the provisions of Accounting Standard-29.</i>	As per information given by legal section
<i>(l) Details of any pending legal/disputed cases as on 31.03.2016 could not be made available to us for our verification. Hence, we are unable to comment about contingent liability; if any</i>	As per information given by legal section there is no <i>any pending legal/disputed cases as on 31.03.2016</i>
1.02 Financial statements of the company does not comply with following:	
<i>(a) As per information and explanations produced by the company, many high value transactions of transactions of transfer of fund from / to Auto Sweep Term Deposit Accounts to / from Bank account, interest on Term Deposit, Receipt from Debtors/ Bihar State Power Holding Corporation, amount deducted by Bank towards TDS, Interest / Bank Charges debited by Bank not accounted in Bank Book and still outstanding in Bank Reconciliation Statement in some of the accounts. Bank reconciliation statement/Bank statement/Balance confirmation certificate in some of the bank accounts, Cash/Bank/Journal voucher (Supporting invoices/Bills and documents relating to expenses /income/loan documents, Cheque issue register and Statement of valuation of</i>	Proper books of accounts as per provision of Companies Act. 2013 is maintain as same was provided during the course of audit.

<p><i>closing stocks (Source documents), physical verification Report of Fixed Assets, Physical verification report of Inventory have not been provided to us in the course of audit. Similarly, EMD refunded to Contractors were debited in different account and not adjusted with outstanding EMD Liability, Amount of Liability of Contractors credited in different account whereas advance to same contractor is outstanding in different account. Non-matching of Advance to Suppliers/ Contractors with Creditors account, Non-reconciliation and non adjustment of resultant errors, if any, of very high value of such Debit/Credit balances, non-maintenance of Age-wise details of very high value such balances, non maintenance of Fixed Assets Register, etc. Also in some of the cases closing balances reflected in books as on 31/03/2015 is different from opening balances reflected as on 01/04/2015. Considering all these above and also as reported in para-1.08(b), para-1.08(c) and para-1.11(h) below, in our opinion proper books of account as required by law have not been kept by the Company so far as appears from our examination of those books;</i></p>	
<p><i>(b) Schedules of Balance sheet (Assets & Liabilities) items could not be made available to us for verification.</i></p>	<p>Same was provided during the course of audit.</p>
<p><i>(c) In our opinion, the Balance Sheet and Statement of Profit and Loss have been prepared by the Company in compliance with the Accounting Standards referred to in Sub-Section 3(c) of Section 211 of the Companies Act, 1956 read with the General Circular 15/2013 dated 13 September 2013 of the Ministry of Corporate Affairs in respect of Section 133 of the Companies Act, 2013 to the extent as applicable and except as stated above as well as elsewhere and in Note No. 19 (Significant Accounting Policies and Notes on Accounts) and Note No. 1 to 18 (Other Notes).</i></p>	<p>Comments not applicable.</p>

<p>1.03 <i>as referred in Note no. 19 para-18, since the Central Government has not issued any notification as to the rate at which the cess is to be paid under section 441A of the Companies Act, 1956 nor has it issued any Rules under the said section, prescribing the manner in which such cess is to be paid, provision for such cess has not been made by the Company.</i></p>	Comments not applicable
<p>1.04 <u>Going Concern Assumption:</u> <i>The accounts of the Corporation have been prepared on the Going Concern assumption. In view of the huge accumulated losses, the negative net worth of the company, the company's ability to continue as a going concern is dependent on availability of substantial finance as well as future performance and profitability, etc.</i></p>	Comments not applicable
<p>1.05 <u>Reserves and Surplus:</u> <u>₹ (-) 2,28,30,64,855.61</u> (a) <i>Reserve and Surplus includes Capital subsidy/ Grant in Aid ₹29,30,08,000.00 as on 31.03.2016. During the year no Capital subsidy/ Grant in Aid has been received under this head. As these are capital subsidy and as disclosed in the Accounting Policy (Para 2 (Government Grants) of Note No. 19 to the Accounts) it will be allocated to projects concerned reducing the cost of project on commissioning of the related project. As a number of projects are in related projects resulting overstatement of Fixed Assets with corresponding overstatement of Capital subsidy/ Grant in Aid (amount not quantifiable for want of relevant detail). This has also impact on depreciation charged.</i></p>	No Capital subsidy or Grant in Aid received during the year.
<p>(b) <i>As per previous audit report for the Financial Year 2013-14 difference of ₹ 131.63 Lacs between Specific Project wise Grant and Control Ledger in the account head Grant in Aid were reported. Reason and Correctness of this difference has not been explained to us.</i></p>	There is no difference between <i>Specific Project wise Grant and Control Ledger</i>

<p>1.06 Long-term Borrowing: <u>₹ 10,14,10,24,283.36</u></p>	
<p>(a) Total loan from Government of Bihar as on 31.03.2016 comes to ₹ 223,08,99,000/-. Neither Sanctioned letter nor calculation sheet of interest of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹27,47,25,120.00 and penal interest amounting to ₹ 5,57,72,475.04 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.</p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p>(b) Total loan from Government of Bihar under RIDF(NABARD) scheme as on 31.03.2016 comes to ₹ 2,43,33,83,000/-. Neither Sanctioned letter nor calculation sheet of Government of Bihar related to such loan was available to verify the rate of interest and terms and condition related thereto. Interest amounting to ₹ 23,24,68,265.00 and penal interest provided amounting to ₹ 6,08,34,575.02 have been provided during the year. In absence of Proper details/calculation sheet, we are unable to offer our Comments on correctness of interest provided.</p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p>(c) The Corporation has defaulted in repayment of Loan received from Govt. of Bihar under RIDF (NABARD) scheme and other Loans. In absence of calculation it could not be ascertained correctness of liability on account of penal interest for delayed repayment has been provided or not.</p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>
<p>(d) Long-term borrowing includes loan from Government of Jharkhand carrying same balance from previous year amounting to ₹5,00,00,000/-. No interest on such Loan has been provided in the books of accounts. In absence of proper document about sanction of loan and other terms and conditions and proper Calculation Sheet for calculation of interest on loans, we are unable to offer out Comments on correctness of interest provided.</p>	<p>Copies of sanctioned letter as well as calculation sheet of interest was provided during the course of audit.</p>

<u>1.07 Fixed Assets: ₹ 1,55,34,44,468.16</u>	
(a) <i>Title deeds in respect of land were not made available to us. It may be noted that as per Accounting Standard – 10 as well as Guidance Notes and Opinion of Expert Advisory Committee of the Institute of Chartered Accountants of India, expenditure incurred for creation of assets not within the control of company should be charged to profit & loss account in the year of incurrence itself. In absence of proper details about title of the land, we are unable to offer any comment on expenses incurred on such projects, if any, where title deed is not with the company.</i>	Copies of title deeds of land is available in respective projects and no requisition was made by auditor to provide the same during the course of audit
(b) <i>During the Financial year 2011-12 a sum of ₹ 27,720/- at Triveni has been shown as addition to Free hold land (including ₹ 220/- paid in Cash), but Proper documents/ Title Deeds were not made available to us for verification.</i>	Amount paid during the year 2011-12 was related to balance amount against land acquisition and copies of title deeds of land is available in respective projects and no requisition was made by auditor to provide the same during the course of audit
(c) <i>Fixed Assets includes a sum of ₹ 1,85,800/- under the head of Lease hold land. No amount is amortised based on the life of lease resulting overstatement of value of fixed asset with corresponding understatement of accumulated loss as well as loss of the year.</i>	Lease agreement related to leasehold land is not available, hence not amortized.
(d) <i>Depreciation on Fixed Assets has been provided on Straight line / written down value method in accordance with the rates prescribed in Schedule XIV to the Companies Act., 1956 on the Fixed Assets not related to Power Generating units and at rates prescribed in Income Tax Rules on the Fixed Assets related to Power Generating Units. The Corporation is a Power Generating Company and Central Electricity Regulatory Commission (CERC) has notified the rates on Straight Line Method for charging Depreciation to the extent of 90% of the Cost of the Asset, which is applicable for the Company. In absence of detailed calculation sheet for charging of Depreciation, we are unable to offer our Comments on value of depreciation charged and its impact on value of Fixed Assets as well as Accumulated Loss.</i>	Depreciation has been charged at the rate prescribed in schedule XIV of the Companies Act, 1956 on the fixed assets not related to power Generating units and at rates prescribed in Income Tax Rules for generating units on the fixed assets related to power generating units.

<p>(e) <i>Fixed Assets also includes a sum of ₹ 1,35,82,177/- under Powerhouse at Dehri, which comprises of cost of pump amounting to ₹ 27,98,515/-, payment to consultant (BHEL) for supervision of repair work amounting to ₹ 1,02,63,213/- and payment to other consultant for service charges, which was capitalized during Financial Year 2009-10. It appears that it was a case of repairs and maintenance it did not increase the future benefits from the existing assets beyond its previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 amount should not be added to Fixed Assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount of expenditure has been incurred during the financial year 2009-10 to enhance performance of power house and to reduce the cost of generating of electricity hence such amount has been capitalized.</p>
<p>(f) <i>Fixed Assets also includes a sum of ₹ 1,23,71,057/- being the amount of Entry tax, Royalty, etc., related to Sebari and Srikhanda Units Capitalised during the Financial Year 2010-11 under the Head Electrical Installation, Plant & Machinery and Powerhouse, where partial amount were capitalized in earlier year and hence depreciation on these items should have been charged from the date of Capitalisation treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.</p>
<p>(g) <i>Fixed Assets also includes a sum of ₹ 72,76,511/- being the amount of Entry Tax related to procurement of goods during the financial year 2007-08 to 2010-11 paid during the financial year 2011-12 for Western Sone (Dehri) Unit Capitalised in that Financial Year under the Head Electrical Installation without linking with the cost of Goods procured, as total cost of Electrical Installation for Dehri Unit is ₹ 80,55,539/- only. The payment of Entry Tax should have been linked with the items purchased and</i></p>	<p>The amount entry tax was paid on different goods which were used in different projects and depreciation has been charged as and when required.</p>

<p><i>related depreciation should have been charged from the date of Capitalisation of Assets for which the Entry Tax relates, treating the depreciation of earlier year as Prior period expenses. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	
<p><i>(h) Fixed Assets also includes a sum of ₹ 36,62,283/- capitalized in Financial Year 2010-11, being the amount paid for Replacement of Spares, Servicing of Air Conditioner, Inspection Charges, etc. which are revenue in nature and it should have been charged to revenue. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The amount incurred for enhancement of performance and to reduce the cost, hence same has been capitalized.</p>
<p><i>(i) Fixed Assets includes a sum of ₹ 58,50,642/- being the amount paid through running account bill and capitalized during the financial Year 2010-11 and no final bills were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The assets still not completed and it was in work-in-progress hence it was not capitalised</p>
<p><i>(j) Fixed Assets includes a sum of ₹ 25,74,696/- (Construction of Escape Regulator) and ₹ 15,05,506/- (Construction of Escape Channel) being the amount paid through Running Account bill and capitalized during the financial year 2011-12 as Plant & Machinery and no final bill were raised by the contractor and it was treated as Capital Work in Progress in books of accounts of the unit. It was noticed that capitalization were made for civil work only without linking it with other cost involved for equipment and also without considering the unpaid amount payable to the</i></p>	<p>The assets was not completed upto the end of the financial year hence it was in work in progress and not capitalized</p>

<i>Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in understatement of fixed assets as well as understatement of Liability and also understatement of Accumulated Loss with consequential effect on charge of depreciation.</i>	
<i>(k) A sum of ₹ 9,242/- has also been noticed as addition to fixed assets in the financial year 2011-12 under office equipment which are in the nature of revenue expenditure resulting overstatement of fixed assets and understatement of revenue expenditure with consequential effect on charge of depreciation.</i>	The value of assets is more than Rs 5000 hence same has been capitalized.
<i>(l) Fixed Assets does not includes a sum of ₹ 5.38 lakh being the value of vehicle (Ambassador car) purchased during the year 2009-10 but not capitalized. Further, two vehicles (Scorpio) were also purchased but not capitalized and the details of Cost of vehicle/advance were not made available to us. Non-Capitalisation of these vehicles has resulted in understatement of fixed assets, also understatement of Accumulated loss with consequential effect on charge of depreciation and overstatement of Advance to Supplier.</i>	Vehicle purchase and invoice received during the financial year 2009-10.
<i>(m) Fixed Assets does not include a sum of ₹ 25,105/- being the cost of Digital UPS and Fan and it's cost were treated as Revenue (Entertainment Expenses) during the Financial Year 2012-13. Non- Capitalisation of these assets has resulted in understatement of Fixed Assets, also overstatement of Accumulated Loss with consequential effect on charge of depreciation.</i>	Since usefull life of this goods is very short period and it is being replace year to year hence charged to revenue.
<i>(n) Fixed Assets includes a sum of ₹ 15,77,10,417/- as Powerhouse being the cost of renovation of Koshi Project capitalised during the Financial Year 2012-13 and which is still under progress and no final bill were submitted by the Contractor. A sum of</i>	The project was completed hence depreciation has been charged

<p><i>₹ 73,64,292/- has been charged as Depreciation against this project. This has resulted in overstatement of fixed assets by ₹ 15,03,46,125/- as well a ₹ 73,64,292/- of loss for the year and Accumulated loss and understatement of Capital work in progress by ₹ 15,77,10,417/- .</i></p>	
<p><i>(o) Fixed Assets also includes a sum of ₹ 77,23,260/- under Jainagara Main Generating Unit capitalised during the Financial Year 2012-13, which comprises of cost of Spares, Battery, Tyre etc., which was capitalised as Fixed Assets (in Books of Jainagara unit it was treated as Capital Work in Progress). It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. Also no Depreciation was charged on it for the year. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss.</i></p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p><i>(p) Fixed Assets includes a sum of ₹ 41,46,363/- under Jainagara Main Generating Unit being the amount of adjustment of advance made to the contractor in earlier year but adjusted during the financial ear 2012-13. It was noticed that capitalization of asset was made in earlier year without linking it with other cost involved for equipment. If assets were completed and put to use, it should have been capitalized with full amount after adjusting all advances made to the contractors. This has resulted in understatement of Accumulated Loss and also overstatement of Fixed Assets due to consequential effect on charge of depreciation related to earlier year.</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor</p>
<p><i>(q) Fixed Assets includes a sum of ₹ 4,96,00,682/- (Construction of Escape Channel, Const. of Cross Regulator and Const. of Escape Regulator at Sone Western</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor.</p>

<p><i>Unit) being the amount paid through Running Account bill and capitalized during the financial Year 2012-13 as Plant & Machinery and no final bills were raised by the contractor and it was treated as Capital work in progress in books of accounts of the until It was noticed that capitalization were made for Plant & Machinery without linking it with other cost involved and also without considering the unpaid amount payable to the contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. Further no depreciation were charged on these assets in books of accounts. This has resulted in overstatement of fixed assets and also understatement of capital work in progress.</i></p>	
<p><i>(r) Fixed Assets also includes a sum of ₹ 18,80,793/- under Electrical Equipment at Sone Western Unit, which comprises of cost of spares, maintenance expenses, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p><i>(s) Fixed Assets includes a sum of ₹ 2,69,86,270/- (₹ 86,72,658/- Electric Equipment at Agnoor, ₹ 80,42,114/- Electric Equipment at Belsar, ₹64,80,000/- Electric Equipment at Alwar, ₹ 32,13,800/- Electric Equipment and ₹ 5,77,698/- Powerhouse at Shrikhinda Unit) being the amount of adjustment of advance made to the contractor in earlier year/ balance payment to the contractor related to the project completed in earlier years but adjusted and capitalised during the financial year</i></p>	<p>Fixed assets has been capitalized after considering the other cost involve for equipment as well as adjustment of advance of contractor</p>

<p>2012-13. It was noticed that capitalization of assets was made in earlier year without adjustment of advance made to the contractor/ without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	
<p>(t) Fixed Assets also includes a sum of ₹ 1,41,61,346/- (₹6,277/- at Belsar, ₹1,87,335/- at Arwal, ₹ 1,12,63,660/- at East Gandak, ₹25,80,820/- at Koshi ₹ 19,800/- at Sone Eastern and ₹ 46,952/- at Shrikhinda) which comprises of cost of Spares, Monthly Maintenance Expenses, Cost of Battery, cleaning of Terrace Channel, etc., which was capitalised as Fixed Assets during the financial year 2012-13. It appears that is a case of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard A-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</p>	<p>The major amount incurred in purchase of additional electrical equipment to enhance the capacity or reduce cost per unit hence it was capitalized.</p>
<p>(u) Fixed Assets includes a sum of ₹ 47,31,729/- under Electric Installation at Dehri Unit, being the amount of adjustment of advance made to the contractor in earlier year/ balance payment of the contractor related to the project completed in earlier year but adjusted and capitalised during the financial year 2012-13. It includes many items which are revenue in nature and should have been charged to revenue expenditure. It was also noticed that major part of capitalization of asset was made in earlier year without adjustment of advance made to the contractor / without considering the unpaid amount payable to the Contractor. If assets were completed and put to use, it should</p>	<p>The assets is completed and put to use 2012-13 hence it is capitalised in financial year 2012-13</p>

<p><i>have been capitalized with full amount by taking the liability for unpaid amount. This has resulted in overstatement of fixed assets as well as understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	
<p>(v) <i>Fixed Assets also includes a sum of ₹ 27,604/- under Office Equipment at Head Office during the Financial Year 2013-14, which comprises of cost of Battery, Key Board, Pen Drive etc., which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>It will be taken care to charge to profit & loss account instead of capitalization.</p>
<p>(w) <i>Fixed Assets also includes a sum of ₹ 63,252.00 under Electric Installation at (Shrikhinda unit and Sone Western unit) during the Financial Year 2014-15, which comprises of cost of Battery, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	<p>It will be taken care to charge to profit & loss account instead of capitalization.</p>
<p>(x) <i>Fixed Assets also includes a sum of ₹ 53,723.00 under Other Equipments at Sone Western unit during the current Financial Year, which comprises of cost of Battery & Spare parts, which was capitalised as Fixed Assets, which are cases of repairs and maintenance and it did not increase the future benefits from the existing assets beyond it's previously assessed standard of performance and did not result in increase in capacity and in terms of Accounting Standard AS-10 and it</i></p>	<p>It will be taken care to charge to profit & loss account instead of capitalization.</p>

<p><i>should not be added to fixed assets. This has resulted in overstatement of fixed assets and understatement of Accumulated Loss with consequential effect on charge of depreciation.</i></p>	
<p><u>1.08 Capital Work in Progress:</u> <u>₹ 5,56,72,98,533.28</u></p>	
<p><i>(a) Capital Work in Progress consists of Assets under construction/ installation/ acquisition amounting to ₹ 1,64,30,17,058.61 and Development Expenditure including borrowing cost amounting to ₹ 3,92,42,81,474.67. Besides negative balance under the head of Land at Triveni amounting to ₹ 10,19,922.00 and ₹ 1,03,73,276.00 at E.M. Jenagra due to over Capitalisation in Previous Financial year. Reason of negative balance could not be explained. Capital Work in Progress includes ₹ 63,27,03,539.38 as Development Expenditure as per last account without any detail. It could not be explained to which project it relates. Substantial amount is lying under capital work in progress without identification of project it relates.</i></p>	<p>There is no negative balance under the head of Land at Triveni as well as negative balance construction of E/M at Jainagara SHP for the year ended 31st March, 2016. The details of development expenditure is available.</p>
<p><i>(b) Negative balance under the head of Electric Equipment and Fabrication amounting to ₹ 52,02,292/- were noticed in the Project Arwal due to over Capitalisation in Financial year 2011-12. Similarly ₹ 99,76,904/- were noticed under the head Electric Equipment (Belsar) due to over Capitalisation in Financial Year 2013-14. Reason of negative balance could not be explained.</i></p>	<p>The amount of negative balance under these head is not due to over charging of depreciation the reason for the same is inter transfer of different head under the capital work in progress.</p>
<p><i>(c) Project Status of 26 under construction units could not be made available to us. In many under construction units amount appearing since long without any Progress. transactions during the year comprise only allocation of interest, head office expenses and depreciation only. In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above.</i></p>	<p>No such requisition was made by auditor during the course of audit hence same was not made available. We have relevant documents and proper details relating to all 26 units</p>

<p>(c) <i>In absence of detail, amount outstanding under the head Project Report Survey and consultancy Charges/ Preliminary Expenses related to any project not likely to come up, could not be ascertained and to such extent capital work in progress is overstated with corresponding understatement of accumulated loss.</i></p>	<p>The amount outstanding under the head project repost/ preliminary expenses is related to different projects which was still in progress for the period ended on 31st March-2015 hence same has not been written off.</p>
<p>(d) <i>We have noticed that in compliance of Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts allocation of borrowing cost and Apportionment of Head Office Expenses has been made on the basis of sanctioned loan amount for the respective Projects without utilization of fund on these projects. In the meantime interest has been earned on temporary Short Term Deposits with Banks and it has been treated as income of the Head Office. It is Contrary to the Accounting Standard-16 "Borrowing Cost" issued by the Institute of Chartered Accountants of India. In our opinion, these accounting Policies should be reviewed and revised in Compliance Accounting Standard. Thus allocation of interest to the projects without netting with interest earned has resulted into understatement of loss and overstatement of Capital Work in Progress/ Fixed Assets.</i></p>	<p>Same was charged to Capitalized and Credit to Income Account as and when required.</p>
<p>(e) <i>Accounting Policy disclosed in Point 2 ('Apportionment of Loan and Borrowing Cost' and 'Apportionment of Head Office Expenses') of Note No. -19 to the accounts state the basis of allocation of borrowing cost and other overheads to projects under construction, but no calculation sheet of amounts allocated was available to verify the correctness and justification of allocation.</i></p>	<p>Such calculation is available.</p>

<p>(f) <i>We have not gone through the value of Sanctioned value of the Project as per DPR and it's approval from administrative Department of Govt. of Bihar and estimated cost taken in tendering as well as Cost incurred on Projects and it's comparison with sanctioned amount, it's final approval from the administrative ministry of Govt. of Bihar, status of project cost incurred above the sanctioned value of the project as theses papers were not made available to us.</i></p>	<p>Same was still pending with Government of Bihar</p>
<p>(g) <i>Capital-Work in Progress includes a sum of ₹ 6,45,525/- which is amount provided to District Land Acquisition Officer, Bettiah for acquisition of Land but treated as Capital work in Progress whereas it should be treated as Advance.</i></p>	<p>Such amount is paid against the project which was still in progress for the period ended on 31st March 2013 hence it has been shown under the capital work in progress.</p>
<p>(h) <i>Capital work in Progress includes a sum of ₹ 16,70,837.50 being the amount of addition made during the Financial Year 2010-11 in Powerhouse which relates to issue of Capital Stores during the year without any allocation of the Unit.</i></p>	<p>This amount is related to Chandil H.E. Project (Jharkhand)</p>
<p>(i) <i>Capital Wok in Progress includes a sum of ₹ 54,45,036/- being the amount of payment made to vendors for Repairing and Maintenance of Western Sone Powerhouse Plant in the Year 2010-11. Western Sone Powerhouse Plant was Capitalised in year prior to F.Y. 2010-11 and hence these expenses should have been charged to revenue for the year. This has resulted in understatement of Accumulated Loss and Overstatement of Capital Work in Progress.</i></p>	<p>The amount has been show under capital work in progress due to construction of additional civil structure for enhancement of capacity .</p>
<p>(j) <i>A sum of ₹ 52,48,548/- paid during the financial year 2012-13 as Consultancy to different parties for preparation of feasibility report and S.P.R. for new projects and it was also approved by the Board of Directors as feasible projects and necessary actions were taken by the Corporation for approval of these feasible projects from the Administrative Ministry. As per Accounting Standard-10, these cost should be treated as Capital Work in Progress. The treatment of</i></p>	<p>The amount of consultancy fee during the year for preparation of feasibility report and DPR is in the nature of revenue and charged to P/L account.</p>

<p><i>these payments as consultancy expenses has resulted in overstatement of Loss for the year as well as Accumulated Loss and also understatement of Capital Work in Progress.</i></p>	
<p><i>(k) Capital Work in Progress for the financial year 2013-14 includes a sum of ₹ 2,83,91,502/- which has been reflected as the cost of Land after transfer of ₹ 1,27,59,199/- to Development Expenses, Construction of Powerhouse, Bank Account after cancellation of Cheque / refund of advances, which clearly indicates that these are not being cost of land and should have been reflected as advance for acquisition of land.</i></p> <p><i>In absence of project status report, subsidiary ledger, RA bills and other relevant documents, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>Transaction related to this qualification is not traceable from books of accounts.</p>
<p><u>1.09 Inventories: ₹ 1,25,91,445.59</u></p>	
<p><i>(a) It includes ₹ 53,41,210.56 being value of materials issued to contractors and is outstanding since long. As explained, materials have been utilized but in absence of necessary documents it remains unadjusted.</i></p>	<p>It is adjusted in future year.</p>
<p><i>(b) Inventories includes Capital Stores amounting to ₹ 67,78,250/- which requires though technical review of the position of non-moving/ obsolete /unserviceable stores and spares is called for and in the absence of such review, we are unable to comment on it's future usability and adequacy of the Value outstanding.</i></p>	<p>The amount of capital store is procured during the recent year hence outstanding as on 31st March 2016.</p>
<p><i>(c) Inventories includes a sum of ₹ 23,895.68 being value of Exide Battery having limited life but outstanding since long and Stock suspense amounting to ₹ 67,787.11 Considering it's future usability, in our opinion theses should be charged to revenue.</i></p>	<p>Management is in process of locating nature of these expenses and it will be treated as revenue after proper allocation.</p>

<p>(d) <i>Capital Stores and Stationery items ₹67,78,250.80 and ₹ 3,24,908.84 respectively same balance is outstanding since opening. During the current financial year no entry for purchase and consumption of stationery was passed under this account head.</i></p> <p><i>In absence of inventory register and relevant documents, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>The amount of capital store is procured during the recent year hence outstanding as on 31st March 2015.</p>
<p><u>1.10 Trade Receivables: ₹ 26,23,55,588.00</u></p>	
<p><i>Confirmation of balances due from Sundry Debtors were not available for our verification. Also it seems that reconciliation of balances outstanding in Sundry Debtors account were not reconciled during the year with the Sole customer BSEB. As per partial reconciliation made for the year 2010-11, BSEB has agreed for an outstanding Bill of ₹ 326.70 Lakh only except outstanding bill of Kataiya Project, which was taken over by the Corporation but adjustment for it's assets and Liabilities has not yet been made. However, Partial Reconciliation made in F.Y. 2010-11 clearly reflects a huge gap between the outstanding realizable amount in books of Corporation (₹ 1,757.10 Lakh) and is not realizable and it should be properly provided and has resulted in understatement of Accumulated Loss and overstatement of Sundry Debtor for un-reconciled portion of bill related to kataiya Project, we are unable to express our opinion on it's realisability or adjustability. This has resulted in understatement of Accumulated Reconciliation statement we have noticed high value of receipts from debtors which were not considered in books of accounts and outstanding in Bank reconciliation.</i></p>	<p>Due to dispute between the Corporation and BSEB related to Koshi Hydel Power Station, Birpur there is un reconcile difference.</p>

<u>1.11 Cash & Bank Balance:</u> <u>₹ 1,05,75,20,024.64</u>																													
<p>(a) <i>Public Ledger Account with SBI Secretariat Branch amounting ₹ 31,78,97,620.00 outstanding since preceding year. As per information given by the management this account was not operated since long but statement & confirmation certificate related to Public Ledger Account was not produced before us.</i></p> <p><i>In absence of account statement and confirmation certificate, we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>P/L Account was not operative since long time. The amount of Rs. 3.00 crores was transferred from State Govt. as Grant which was un reconcile due to not operation of P/L Account.</p>																												
<p>(b) <i>Many of the Bank Accounts, operated at various units of the Company remain un-reconciled. No balance confirmation from banks in respect of bank balances have been obtained. Many bank Accounts of Units and One Bank Account of Head Office were not operated since many years.</i></p> <p><i>Bank Reconciliation Statement have not been made available to us:</i></p> <table border="1"> <thead> <tr> <th><i>Name of Bank</i></th><th><i>Balance as on 31.03.2016</i></th></tr> </thead> <tbody> <tr> <td><i>Bank of India (HO)</i></td><td><i>60,79,04,837.05 Dr.</i></td></tr> <tr> <td><i>Bank of India (Tax Account)</i></td><td><i>35,984.00 Cr.</i></td></tr> <tr> <td><i>B.S.Co-Operative Bank</i></td><td><i>1,059.45 Dr.</i></td></tr> <tr> <td><i>Punjab National Bank (HO)</i></td><td><i>21,14,410.05 Dr.</i></td></tr> <tr> <td><i>P.K.Gramin Bank (Mandal)</i></td><td><i>3,360.80 Dr.</i></td></tr> <tr> <td><i>SBI (Lower Ghaghri)</i></td><td><i>5,000.00 Dr.</i></td></tr> <tr> <td><i>SBI-Madhepura</i></td><td><i>3,04,024.25 Dr.</i></td></tr> <tr> <td><i>SBI (Mandal)</i></td><td><i>17,728.62 Dr.</i></td></tr> <tr> <td><i>SBI (Netarhat)</i></td><td><i>96,120.00 Dr.</i></td></tr> <tr> <td><i>SBI (Ranchi)</i></td><td><i>199.91 Dr.</i></td></tr> <tr> <td><i>SBI(Sadni)</i></td><td><i>9,112.00 Dr.</i></td></tr> <tr> <td><i>State Bank Of India (SE)</i></td><td><i>25,130.72 Dr.</i></td></tr> <tr> <td><i>State Bank of India (TBHEP)</i></td><td><i>20,894.65 Dr.</i></td></tr> </tbody> </table>	<i>Name of Bank</i>	<i>Balance as on 31.03.2016</i>	<i>Bank of India (HO)</i>	<i>60,79,04,837.05 Dr.</i>	<i>Bank of India (Tax Account)</i>	<i>35,984.00 Cr.</i>	<i>B.S.Co-Operative Bank</i>	<i>1,059.45 Dr.</i>	<i>Punjab National Bank (HO)</i>	<i>21,14,410.05 Dr.</i>	<i>P.K.Gramin Bank (Mandal)</i>	<i>3,360.80 Dr.</i>	<i>SBI (Lower Ghaghri)</i>	<i>5,000.00 Dr.</i>	<i>SBI-Madhepura</i>	<i>3,04,024.25 Dr.</i>	<i>SBI (Mandal)</i>	<i>17,728.62 Dr.</i>	<i>SBI (Netarhat)</i>	<i>96,120.00 Dr.</i>	<i>SBI (Ranchi)</i>	<i>199.91 Dr.</i>	<i>SBI(Sadni)</i>	<i>9,112.00 Dr.</i>	<i>State Bank Of India (SE)</i>	<i>25,130.72 Dr.</i>	<i>State Bank of India (TBHEP)</i>	<i>20,894.65 Dr.</i>	<p>Bank reconciliation statement relating to most of the operating accounts was made available during the course of audit.</p>
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<i>Bank of India (HO)</i>	<i>60,79,04,837.05 Dr.</i>																												
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Bank Statement have not been made available:

Name of Bank	Balance as on 31.03.2016
Bank of India (Tax Account)	35,984.00 Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	21,14,410.05 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI-Madhepura	3,04,024.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	9,112.00 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.

Balance Confirmation Certificate have not been made available:

Name of Bank	Balance as on 31.03.2016
Bank of India (HO)	60,79,04,837.05 Dr.
Bank of India (Tax Account)	35,984.00 Cr.
B.S.Co-Operative Bank	1,059.45 Dr.
Punjab National Bank (DDG)	10,77,01,257.00 Dr.
Punjab National Bank (HO)	21,14,410.05 Dr.
State Bank of India (HO)	13,14,039.77 Dr.
Bank Of India (Chandil)	59,275.59 Dr.
Bank of India (Sakchi)	34,71,032.96 Dr.
P.K.Gramin Bank (Mandal)	3,360.80 Dr.
S.B.I (Koshi)	22,760.50 Dr.
SBI (Lower Ghaghri)	5,000.00 Dr.
SBI-Madhepura	3,04,024.25 Dr.
SBI (Mandal)	17,728.62 Dr.
SBI (Netarhat)	96,120.00 Dr.
SBI (Ranchi)	199.91 Dr.
SBI(Sadni)	9,112.00 Dr.
SBI Triveni Link	1,60,760.00 Dr.
SBI (Valmikinagar)	16,67,369.05 Dr.
State Bank Of India (SE)	25,130.72 Dr.
State Bank of India (TBHEP)	20,894.65 Dr.

Bank statements relating to most of the operating accounts was made available during the course of audit. Incase of sum of the Bank Accounts maintained state in Jharkhand which is inoperating since long time and old balance is being carry forward in absence of non arability of Bank Statements

Bank confirmation certificate relating to most of the operating accounts was made available during the course of audit.

(c) In Case of Operating Bank Accounts, in some cases where accounts are reconciled, there are substantial amounts outstanding since long including cases of amounts debited / credited by bank but not recorded in the books of the Company (even movement of balances in Auto Swift Account / transfer from one account to another account/ interest credit / interest Debit, TDS

We are in process of adjusting old entries lying in Bank Reconciliation Statement.

deducted by Bank, fund received from Sundry Debtor (South Bihar Power Distribution Company Limited), (Bihar State Power holding Corporation) were not recorded and are outstanding, Non adjustment of which may materially affect the Bank Accounts as well as income, expenditure, assets and liabilities.	
(d) Confirmation Certificate and/or Receipt for the Fixed Deposit was not made available to us. Also in Bank Reconciliation Statement a large number of high value transactions of transfer from Current Account to / from Auto Sweep Account from / to current account were noticed as un-responded by the Company. It was not possible to physically verify the short term deposits with banks in course of audit after a period of its maturity.	Fixed deposit register was made available during the course of audit. Deposit receipts of old years is not available because same was submitted to Bank at the time of encashment of deposit.
(e) Stamp in hand amounting to ₹ 12,686/- same balance carried since previous year. During the current financial year no entry for purchase and consumption of stamp was passed under this account head. Copy of physical verification as on 31.03.2016 could not made available to us for our verification. In absence of relevant documents/proper details, we could not verify it and unable to comment on the correctness of the above figures.	During the year 2012-13 stamp value equal to Rs. 12686/- was in hand and stamp value of Rs. 12686/- was in hand as on 31st March 2016..
(f) Calculation sheet of interest provision was not available.	Same was made available during the course of audit.
(g) Cash balance in fraction of paisa indicates that either physical verification of cash was not carried out or cash balance includes coins which was no longer a legal tender. It needs to be adjusted.	It will be adjusted in future year.
(h) Cash in hand balance includes negative balance of ₹ 5,629/- at chandil Unit. It clearly indicates that accounting entries were passed without considering the physical verification of assets as Cash in Hand cannot be negative. This has also resulted into understatement Cash and Bank Balance and overstatement of current liabilities.	It will be adjusted/reconcile in future year.

<p>(i) <i>No proper adjustment of income tax deducted at source (TDS), where ever deducted, was found. Non adjustment of TDS results in short adjustment of income / interest accrued as well as balances in short term deposit.</i></p>	<p>It is adjusted as when required.</p>
<p>1.12 Short-term Loans & Advances: ₹ 62,35,61,702.45</p>	
<p>(a) <i>Advance Recoverable in cash includes ₹ 48.51 crore advances to suppliers/contractors and ₹ 0.18 crore other recoverable from contractors/ employees. It appears that substantial amount is outstanding since long. In absence of confirmation of balance from various parties and it's linking with outstanding expenses, which are outstanding without any movement during the Current Financial Year, their realisability could not be ascertained. Also in many cases adhoc advance / advance against Performa bills were given but it was not adjusted after receipt of the supplied items. Further, it includes many old items like Income Tax Advance, Income Tax Deducted at source, Advance for Land Acquisition, etc., which were not properly analysed, linked and adjusted. The extent to which such adjustments on analysis or linking of balances will affect the loss or other accounts could not be determined in absence of item-wise / age-wise break up.</i></p>	<p>Advances are outstanding since very long time and management is in process of tracking those advances with related expense so that it can be adjusted in future</p>
<p>(b) <i>Loans and Advances include balances which are revenue in Nature, e.g. Insurance Advance ₹ 72,206.00, Advance for Advertisement ₹ 3,15,555.00, Guest house Rent (Pre-Paid Expenses) ₹ 10,000.00, L.T.C. Advance ₹ 16,223.02, T.A. Advance ₹ 15,66,892.48, Legal Advance ₹ 1430931.00, Transfer Travelling Advance ₹ 36918.62, Consultancy Advance ₹ 1,15,250/-, Temporary Advance ₹ 48,73,623.26, Leave Salary ₹ 3,021.50 etc., which should have been treated as expenditure in earlier years/ Current Year, resulting into overstatement of Loans and advances and understatement of Accumulated Loss of the Corporation.</i></p>	<p>Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31st March 2014 and is adjusted after receiving invoice or adjustment voucher from year to year.</p>

<p>(c) <i>Loans and Advances include a sum of ₹ 82,57,552.41 towards advance to staff comprising ₹ 63,045.44 towards Salary Advance, ₹ 75,977.30 towards marriage advance, ₹ 73,269.80 towards House Building Advance, ₹2,18,057.00 towards Medical Advance and Pay Advance ₹ 1,95,708.00 etc., where Employee wise proper details are not available with Corporation. There are many cases which are showing negative balances. In many cases no recoveries are forthcoming. There may be cases where employee were retired but advances are outstanding. In absence of case wise review by the Corporation, we are unable to offer our comments on realisability of these staff advances.</i></p>	<p>Due to not presentation of adjustment bill of invoice these amount were still outstanding for period ended on 31st March 2015 and is adjusted after receiving invoice or adjustment voucher from year to year.</p>
<p>(d) <i>Advances include opening balance of Advance Tax Deposit / Tax Deducted at Source, etc being ₹ 2,21,85,105.96 considering the huge losses and no taxability, it should have been refunded by the Income Tax Department but reason of non-refund could not be explained.</i></p>	<p>We are in process the reconciling the same and we will be adjusted after reconciliation</p>
<p>(e) <i>During the year a sum of ₹ 60,92,917.00 has been accounted as income tax deducted at source on interest paid by banks as against interest income of ₹6,09,33,417.00. it seems that the same has not been reconciled with the figures of certificates obtained from banks. Further, Refund of ₹ 36,780/- received in preceding Financial Year not linked with proper account. In absence of FD ledger/FD statements/interest calculation sheet and other related documents we could not verify it and unable to comment on the correctness of the above figures.</i></p>	<p>The amount of Income Tax deducted is accounted in the books of account for the basis of Form 26AS</p>
<p>(f) <i>Advance for land acquisition amounting to ₹ 5,00,000/- outstanding since long remains to be adjusted/ recovered.</i></p>	<p>It is very old balance lying in books of account and management is in process of tracking the same.</p>
<p>(g) <i>Loans and advances includes a sum of ₹ 43,17,462.10 receivable from Energy Department Govt. of Bihar, which relates to</i></p>	<p>This amount resemble from Energy Department hence it is show under loan and advance</p>

<p><i>expenses incurred by the Corporation on behalf of energy Department. In absence of Proper confirmation from the department, we are unable to offer our comments on realisibility of this amount and resulting loss.</i></p>	
<p><i>(h) Balances of Ranchi Project Office and Inter Unit current account to ₹3,98,884.87 outstanding since long remain to be reconciled.</i></p>	<p>It is very old balance lying in books of account and management is in process of tracking the same.</p>
<p><u>1.13 Current Liabilities:</u> <u>Trade Payables: ₹1,67,91,570.91 and Other Current Liabilities: ₹21,16,20,763.46</u></p>	
<p><i>(a) Sundry Creditors amounting to ₹ 1,67,91,570.91 consists of opening balance and addition during the year. It appears payments made are shown as advances resulting inflated liabilities and inflated assets. In absence of confirmatory certificate in support of the individual party / and it's linking with advances under the account head Advance to Contractors, Suppliers, etc., under group loans & advances, accounts appearing under the heads sundry creditors, Unpaid Contractors and Sundry Creditors for Capital Stores, which are outstanding since long without scrutinising the status of liability no longer required to be written back, we are unable to comment on it's impact on the loss and other accounts.</i></p>	<p>Since there is large number of vender associated with the corporation and it is not possible to take confirmatory certificate for each individual parties however Debit & Credit balance under the group of Sundry Creditors was adjusted from year to year after receiving necessary bill or invoices.</p>
<p><i>(b) Nature of ₹ 1,15,00,000/- shown as payable to Irrigation Department since long could not be explained to ascertain whether it is correctly shown as current liability.</i></p>	<p>This amount was received from Irrigation Department to construct canal / Gate related to Sone Western H.E. Project, Dehri since this amount was unspent for upto the period on 31.03.2015 hence it was showing as outstanding.</p>
<p><i>(c) Liability includes a sum of ₹ 1,77,421/- (Credit) towards Gratuity liability. No expenses were recognized for ₹ 1,94,224/- for Md Mustaque Ahmed where amount paid to employee were higher then the amount received from L.I.C and which should have been charged to revenue in financial year 2012-13. Thus Gratuity Expenses / Accumulated Loss as well as Liability is</i></p>	<p>The amount of Gratuity liability is related to the employees against whom amount is received from LIC and shown under the head of Gratuity liabilities</p>

understated by ₹1,94,224/-.	
<p>(d) <i>Current Liabilities include a sum of ₹ 4,90,432/- being amount of Audit Fee Payable to the Statutory Auditor, Tax Auditor and Internal Auditor related to Previous Year and no provision for Statutory Audit Fee, Tax Audit Fee and Internal Audit Fee was made during the year and audit fee paid to the auditors related to previous years were directly debited to Profit & Loss Account. This has resulted in to booking of Audit fee on cash basis without any disclosure in financial statement and non-compliance of Schedule-III to the Companies Act., 2013. Also the differential amount of Audit Fee for the Year has resulted into understatement/overstatement of loss as well as liability which are in absence of proper information cannot be quantified.</i></p>	<p>The amount of Rs. 1,79,304/- written as audit fee includes Rs. 22,000/- as Tax audit fee & Rs 44944/- as Internal Audit fee and statutory audit fee Rs. 1,12,360/- which are bifurcated in books of account</p>
<p><u>1.14 Profit & Loss Account:</u> <u>₹ (-) 25,35,18,124.95</u></p>	
<p>(a) (i) <i>The Expenditure under Employee Benefit Expenses (Note-15) ₹24,30,938.00, Other Expenses (Note-16) ₹2,85,44,024.72, Interest & Finance Charges (Note-17) ₹36,27,16,173.37, Depreciation (Note-18) ₹3,57,635.21 has been transferred to Capital Work In Progress (Note-7). The basis of allocation/calculation sheet of expenses transfer to Capital Work In Progress could not made available to us for our verification.</i></p> <p>(ii) <i>A sum of ₹ 2,85,44,024.72 transfer to Capital Work In Progress (Note-7) from Other Expenses (Note-16). Which transfer amount is higher than total expenditure under this head of ₹ 1,98,23,945.20. Therefore negative balance shown of ₹ 87,20,079.52 in Profit & Loss Account under Other Expenses (Note-16). In absence of relevant documents and proper details, we could not verify it and unable to comment on the correctness of the above figures.</i></p> <p>(iii) <i>In the head of Employee Benefit Expenses (Note-15) and Other Expenses</i></p>	<p>Same was made available during the course of audit.</p>

<p><i>(Note-16) Transfer to Capital Work in Progress showing Schedule 9 instead of Note-7.</i></p> <p><i>(iv) The top sheet of Profit & Loss Account Showing Schedule in instead of Note; although its Schedule part mentioned as Note No.</i></p>	
<p><i>(b) In absence of details of Bank Reconciliation Statements for many Bank Accounts the authenticity of Bank Charges and other incomes could not be checked.</i></p>	<p>Bank reconciliation statement relating to most of the operating accounts was made available during the course of audit.</p>
<p><i>(c) Agreement with South Bihar Power Distribution Company Limited was not available to verify the rate at which sale of energy is made to them.</i></p>	<p>Same was made available during the course of Audit.</p>
<p><i>(d) The Corporation was contributing to Life insurance policy for Gratuity liability of it's Employees. During the current year neither the amount of contribution paid to the Life Insurance Corporation nor provided for it.</i></p>	<p>Due to retirement of many employees in different period the actual amount payable to LIC is not reasonably estimated hence not provided in the books of account</p>
<p><i>(e) No mercantile system of accounting was followed by the company and many expenses were accounted on Cash basis only like Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.</i></p>	<p>Company has followed mercantile system of accounting in relation to Consultancy charges, Audit Fee, Hire Charges of Vehicle, Legal Expenses, Printing & Stationery, etc.</p>
<p><i>(f) Employer's Contribution to Provident Fund has not been shown separately (included in salary) as required by Schedule III of the Companies Act., 2013.</i></p>	<p>It will be taken care in future year. There is not materials impact on financial statement this reason</p>
<p><u>1.15 Deviation from Schedule-III to the Companies Act., 2013:</u> <i>The Financial Statement prepared by the company has not followed Schedule-III to the Companies Act, 2013 properly. Security Deposit Paid and Advances given to contractors for capital works were not treated as capital advance, under Long Term Loans & Advances. Similarly Liabilities were not properly disclosed under current and Non Current Liabilities and even EMD, Securities Deposit received were treated as Current Liabilities.</i></p>	<p>It will be taken care in future year.</p>

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1.16 <u>Disclosures:</u>	
<i>(a) The Company has not separately disclosed additional information in the Financial Statements as required by Notification No. GST 494(E) dated 30th October, 1973 as well as required under Schedule –III to the Companies Act, 2013 related to Sales, Employee Remuneration, Audit Expenses Prior Period Expenses, Export Turnover and other non monetary disclosure.</i>	It will be taken care in future year.
<i>(b) The management has not furnished the following information although required to be disclosed by way of a note to the accounts: Claims against the Company not acknowledged as debts. Estimated amount of contracts remaining to be executed on capital account and not provided for.</i>	It will be taken care in future year.
<i>(c) Particular of Advance: The Company has not properly disclosed the amount due and the maximum amount due at any time during the financial year from the Chairman and Directors under the loans and advances.</i>	There is no such loans & advances
<i>1.17 As explained Kosi Kayaiya unit has been taken over by the company in earlier year but adjustment of assets and liabilities including amount payable to transferor related to this unit has not yet been made. Relevant record related to such take over was not available to ascertain the quantum of assets and liabilities remaining to be adjusted.</i>	This project was transferred to this company during the financial year 2003-04 however the details relating to assets & liabilities was not made available to the company. We have recognised the assets & liabilities our books of accounts from the year of the taking over of project.
<i>1.18 Figures mentioned in the Financial Statements did not used any Symbol. Further, figures as appearing in Financial Statements have not been Rounded off as required in Schedule III of the Companies Act'2013.</i>	It will be taken care from future year
<i>1.19 Observations / qualifications made by the</i>	Management is in process of adjusting the

<i>Auditors in their reports for earlier years affecting value of assets, liabilities and accumulated loss of the company has not yet been considered for adjustment.</i>	same.
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