

JAMMU AND KASHMIR STATE POWER DEVELOPMENT CORPORATION



**Annual Revenue Requirement (ARR)
And
Tariff Petition
For
FY 2011-12**

J&K STATE POWER DEVELOPMENT CORPORATION

ANNUAL REVENUE REQUIREMENT (ARR)

AND

TARIFF PETITION

FOR

FY 2011-12

PART-A (Rev)
APPLICATION
FOR
ANNUAL REVENUE REQUIREMENT (ARR)
&
TARIFF PETITION
FOR
FY 2011-12

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**BEFORE THE J&K STATE ELECTRICITY REGULATORY COMMISSION (J&KSERC),
JAMMU**

Filing No.....
Case No.....

IN THE MATTER OF:

APPLICATION FOR APPROVAL OF ANNUAL REVENUE REQUIREMENT AND TARIFF PETITION OF HYDRO ELECTRIC STATIONS, GAS TURBINE AND TRANSMISSION LINE OF JKSPDC FOR THE FINANCIAL YEAR 2011-12 IN TERMS OF CLAUSE 45 OF THE J&KSERC (CONDUCT OF BUSINESS) REGULATIONS AND J&KSERC (TERMS & CONDITIONS OF DETERMINATION OF HYDRO GENERATION TARRIF) REGULATIONS, 2005 AS AMENDED FROM TIME TO TIME WHEREVER APPLICABLE

AND

IN THE MATTER OF:

JAMMU & KASHMIR STATE POWER DEVELOPMENT CORPORATION LIMITED (HEREINAFTER REFFERED TO AS JKSPDC EXIBITION GROUND, SRINAGAR-190009, KASHMIR / ASHOK NAGAR, SATWARI, JAMMU 180004.

..... PETITIONER

DEVELOPMENT COMMISSIONER, POWER,
POWER DEVELOPMENT DEPARTMENT,
GOVERNMENT OF JAMMU AND KASHMIR,
BEMINA, SRINAGAR/ JANIPUR, JAMMU.

.....RESPONDENT

The Applicant respectfully submits as under:-

1. **BACKGROUND**

The Corporation was incorporated as "Jammu and Kashmir State Power Development Corporation Private Limited" on 16th February 1995 under the Companies Act, 1956. Subsequently, the Corporation was converted to public limited Company and the name was changed to "Jammu and Kashmir State Power Development Corporation Limited" and a new Certificate of Incorporation was issued by the Registrar of Companies, Jammu & Kashmir, at Jammu on 24th November, 1999. The Corporation is wholly owned by the State Government of Jammu & Kashmir.

The Corporation, in spite of being incorporated on 16.02.1995, continued to work on Treasury pattern up to 31.12.1997. JKPDC effectively shifted to commercial pattern / Banking System with effect from 01.01.1998 as per Government Order No. 329F of 1997 dated 10.12.1997 when its financial set up was de-linked from the Treasury. The assets acquired costing Rs. 907.84 crore was transferred to the Corporation in the year 1999 vide Order No. PDD/AC/11/99 dated 29.10.1999

2. **MAIN OBJECTS**

The main objects of the Corporation on its incorporation were:-

- (i) To take over, execute, complete and operate Power Stations and Power projects of the Jammu and Kashmir Government including all property rights and other rights and obligations including with respect to personnel that may be assigned by the Government of the State of Jammu and Kashmir, and to arrange for conveyance loan or assignment in favour of the Company of all properties and rights that may be necessary for this purpose.
- (ii)
 - a. To plan, promote and organize an integrated and efficient development of electric power in all aspects including planning, investigation, research, design and preparation of preliminary feasibility and detailed project reports, construction, generation, operation and maintenance of Power Stations and projects, transmission, distribution and sale of power generated at power stations in accordance with the policy of the State of Jammu and Kashmir and objectives laid down by the State Government from time to time.
 - b. To undertake, where necessary, the construction of transmission lines and ancillary works for timely and coordinated supply of Power.
- (iii) To co-ordinate the activities of its subsidiaries, to determine their economic and financial objectives / targets and to review, control, guide and direct their performance with a view to secure optimum utilization of all resources placed at their disposal.
- (iv) To act as an agent of the Government / Public Sector Institutions, to exercise all the rights and powers exercisable at any meeting of any Company engaged in the Planning, Investigation, Research, Design and Preparation of Preliminary Feasibility and Detailed Project Reports, Construction, Generation, Operation and Maintenance of Power Stations and Projects, Transmission, Distribution and Sale of Power, in respect of any shares held by the Government, Public Financial Institutions, National Banks, Nationalized Insurance Companies with a view to

secure the most effective utilization of the financial investments and loans in such companies and the most efficient development of the concerned industries.

- (v) To carry on the business of purchasing, selling, importing, exporting, producing, trading, manufacturing or otherwise dealing in power generation and transmission equipment and supplies for power development, ancillary and other allied industries and for that purpose to install, operate and manage all necessary plants, establishments and works.

3. INSTALLED CAPACITY

(i) **Hydro Electric Power Stations**

The Corporation has 20 hydro electric power stations (HEPs) having total installed capacity of 763.70 MW. Out of these total HEPs, 18 hydro power stations were commercially in operation till 31.03.2009.

Baglihar has been declared commercially operational commissioned on 01/04/2009.

One HEP namely Mohra, is not operating since floods of Sep, 1992.

Thus 19 HEPs having total installed capacity of 754.70 MW owned by the Corporation are presently functioning.

Accordingly details of installed capacity of hydro electric power stations of JKSDPC for the year 2009-2010 are given here under:-

Details of Hydro Electric Power Stations

Sl. No.	Name of Power House	Unit	Capacity of each unit (MW)	Installed Capacity (MW)	Year of Commissioning
A.	Jhelum River Basin				
1	Lower Jhelum	Unit I	35.00	105.00	Feb, 1978
		Unit II	35.00		Jan, 1979
		Unit III	35.00		Nov, 1979
2	Upper Sindh – I	Unit I	11.30	22.60	Dec, 1973
		Unit II	11.30		July, 1974
3	Ganderbal	Unit I	3.00	15.00	Feb, 1955
		Unit II	3.00		Feb, 1955
		Unit III	4.50		1961
		Unit IV	4.50		1961
4	Upper Sindh – II	Unit I	35.00	105.00	June, 2000
		Unit II	35.00		Sept, 2001
		Unit III	35.00		June, 2002
5	Karnah	Unit I	1.00	2.00	1991
		Unit II	1.00		1997
6	Pahalgam	Unit I	1.50	3.00	June, 2005
		Unit II	1.50		June, 2005

Sl. No.	Name of Power House	Unit	Capacity of each unit (MW)	Installed Capacity (MW)	Year of Commissioning
B.	Chenab Basin				
7	Chenani – I	Unit I	4.66	23.30	1971
		Unit II	4.66		1971
		Unit III	4.66		1971
		Unit IV	4.66		1975
		Unit V	4.66		1975
8	Chenani – II	Unit I	1.00	2.00	1996
		Unit II	1.00		1996
9	Chenani – III	Unit I	2.50	7.50	2003
		Unit II	2.50		2003
		Unit III	2.50		2003
10	Baderwah	Unit I	0.50	1.00	May, 2005
		Unit II	0.50		May, 2005
11	Baglihar	Unit I	150	450	01/04/ 2009
		Unit II	150		
		Unit III	150		
C.	Ravi Basin				
12	Sewa – III	Unit I	3.00	9.00	June, 2002
		Unit II	3.00		Oct, 2002
		Unit III	3.00		June, 2003
D.	Indus Basin				
13	Iqbal Bridge	Unit I	1.25	3.75	Nov, 1995
		Unit II	1.25		1996
		Unit III	1.25		1996
14	Hunder	Unit I	0.20	0.40	1995
		Unit II	0.20		1995
15	Sumoor	Unit I	0.05	0.10	1993
		Unit II	0.05		1993
16	Bazgo	Unit I	0.15	0.30	1994
		Unit II	0.15		1994
17	Igo-Mercellong	Unit I	1.50	3.00	1/6/2005
		Unit II	1.50		19/08/2005
18	Marpachoo	Unit I	0.25	0.75	2006
		Unit II	0.25		2006
		Unit III	0.25		2006
19	Haftal	Unit I	0.50	1.00	2006-2007
		Unit II	0.50		2006-2007
Total capacity in MW				754.70	

(ii) **Gas Based Thermal Power Stations**

In addition to the hydro electric power stations PDC has Gas Based Thermal Power Stations as listed below which are operated only on call from transmission & distribution utility i.e. J&K PDD because of prohibitive cost of power generation.

Government of Jammu and Kashmir bears only the cost of fuel whenever the units are operated.

S. No.	Name of Power House	Unit	Capacity of Each unit (MW)	Installed Capacity (MW)	Year of Commissioning
1	Gas Turbine Station - I Pampore	Unit I	25.0	75.00	1989-90
		Unit II	25.0		1989-90
		Unit III	25.0		1989-90
2	Gas Turbine Station - II Pampore	Unit I	25.0	100.00	1993-94
		Unit II	25.0		1993-94
		Unit III	25.0		1993-94
		Unit IV	25.0		1993-94
Total Thermal capacity				175.00	

(iii) **Transmission System**

PDC has commissioned a 400kV D/C line from Baglihar to Kishenpur and two bays at 400kV Kishenpur S/s of PGCIL. The tariff for the same has been determined separately

4. **ENERGY SALES WITHIN THE STATE TO POWER DEVELOPMENT DEPARTMENT (PDD)**

The entire quantity of electricity generated by the HEPs, which have been commercially commissioned, is being sold within the State to the Power Development Department (PDD) except for Baglihar Phase –I where 50% generation is sold to Power Development Department (PDD) and balance 50% generation is sold through Power Trading Corporation, to meet the lenders requirement.

5. **COMPLIANCE OF DIRECTIVES**

In compliance to the directives issued by the Hon'ble Commission in its Order dated 30th April, 2010 for approval of Annual Revenue Requirement (ARR) and Approval of Generation Tariffs for the year 2009-2010 & 2010-11.

It is to submit as under:-

A) **Compliance Report of the pending directives of the order dated April 2010.**

Directive-III

Final report by the consultant M/s Ernst & Young stands executed and a copy of the same is enclosed.

The Board has constituted a Sub-committee headed by Economic Advisor to J&K Govt. and comprising Commissioner / Secretary to Government, Power Development Department, Commissioner / Secretary Planning and Managing Director, JKSPDC to decide all issues related to restructuring of JKSPDC. The Commission shall be informed about developments in the process of restructuring.

Directive-IV

Details of the actual expenditure on O&M and Gas turbine stands submitted in the Review Petition filed in May 2010.

Directive-V

The Petition for determination of tariff for Baglihar Hydro Electric Project Stage –I has already been filed before the Hon'ble Commission on 29th December, 2010.

Directive-VII

A separate note for the O & M expenditure for the last 5 years is enclosed as Annexure-1

Directive-VIII

In respect of BHEP, all the clarifications have already been submitted. For the other HEPs the depreciation with proper classification has been worked out and same is enclosed as Annexure-2. Depreciation and advance against depreciation has accordingly been worked out.

B) New Directives**SI.No. 2 - Directive 6.4**

Due to law and order circumstances in the last summer, the directives issued by the Hon'ble Commission could not be complied. However, it is to assure that from next Financial Year, the same shall be abided.

SI.No. 3 - Directive 6.5 (i)

Day ahead schedules are being forwarded to SLDC in respect of the power houses having grid connectivity.

In respect of Ladakh Region and power houses operating in isolated mode, day ahead schedules are being provided to the local PDD officers.

SI.No. 3 - Directive 6.5 (ii)

Necessary steps are being taken to comply with the directions. It is to assure the Hon'ble Commission that this directive shall be complied with from the year 2011-12 onwards.

SI.No. 3 - Directive 6.5 (iii)

Details of the major outages / break downs are being compiled. In case of major outages, the Commission is informed from time to time.

SI.No.4 - Directive 6.5 (iv)

JKPDD being the transmission utility had been requested to install meters at all inter-connection points.

SI.No. 5 - Directive 6.5 (v)

Bills are being issued as directed by the Commission.

6. PRESENT STATUS OF BILLING OF ENERGY

It is to submit before Hon'ble Commission that presently billing of energy from 18 HEPs is being done as per Hon'ble Commission's Order dated 30th April, 2010 applicable for the year 2010-11

For the Baglihar HEP the billing is being done @ Rs. 3.71 per kWh for the year 2010-11 (as permitted by the Hon'ble Commission) and for the year 2011-12 will be done @ Rs 3.62 per kWh as per Power Purchase Agreement with PDD dated 13.12.2000 till the tariff order is issued by the Commission.

7. A. DETERMINATION OF TARIFF FOR 8 HEPs

The Hon'ble Commission, has already approved completion costs of 8 HEPs. Accordingly the tariff has been calculated with the procedure defined in Chapter 4. of JKSERC Regulations, 2005 dated 23.09.2005:-

Sl. No.	Name of HEP	Capacity MW	COD
1.	USHP-II Kangan	105.00	June, 2002
2.	Chenani-III	7.50	June, 2003
3.	Sewa-III	9.00	June, 2003
4.	Pahalgam	3.00	June, 2005
5.	Igo-Marcellong	3.00	Aug; 2005
6.	Baderwah	1.00	May, 2005
7	Marpochu	0.75	2006
8	Haftal	1.00	2006-07

As defined in the said Regulations, the two part tariff for sale of electricity from a hydro power station shall comprise of recovery of Annual Capacity Charges and primary Energy Charges. Accordingly following have been considered for tariff Petition:-

Annual Fixed Charges:

The Annual Fixed Charges (AFC) consists of:-

- a) Interest on Loan Capital
- b) Depreciation including Advance Against Depreciation
- c) Return on Equity
- d) Operation & Maintenance Expenses
- e) Interest on Working Capital
- f) Other Expenses as approved by the Commission

The assumptions considered for 8 HEPs are given below:

Sl. No.	Particulars	Unit	Value	
1	Plant Availability Factor			
	Normative Capacity Index		First Year	Afterwards
	Run of River	%	85	90
	Storage Type	%	80	85
2	Auxiliary Consumption		With Rotating Exciter	With Static Excitation
	Surface	%	0.20	0.50
	Underground	%	0.40	0.70
3	Transformer Losses	%	0.50	-
4	O&M Expenses			
	% of Cap Cost	%	1.50	
	Annual Escalation	%	4.00	
5	Depreciation			
	Plant Life Yrs, Residual life 10%	%	As per Regulations	
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation		
6	Working Capital			
	Receivable	months	2	of Fixed Charges
	O & M Expenses	months	1	
	Spares for Maintenance	%	1	of historic cost
	Escalation in Spares Inventory	%	6	
	Rate of Interest	%	11 as per PLR of J&K Bank as on 1.4.2005	
7	Return on Equity	%	14	
8	Initial Spares as part of Capital Cost	%	1.50	
9	Equity	%	30	Net Project Cost
	Loan	%	70	Net Project Cost
10	Interest	%	as per sanction	
11	Moratorium		No moratorium after COD	

a) Project Cost

Project costs of the 8 HEPs as approved by the Hon'ble Commission is as given under:-

Sl. No.	Name of HEP	Capacity in MW	Total Project Cost Rs in Million
1	USHP-II Kangan	105.00	4349.93
2	Chennani-III	7.50	549.68
3	Sewa-III	9.00	668.42
4	Pahalgam	3.00	552.01
5	Igo-Mercellong	3.00	494.23
6	Baderwah	1.00	106.05
7	Marpachoo	0.75	128.45
8	Haftal	1.00	161.30

b) Design Energy

The Design Energy as validated by the consultant and approved by the Hon'ble Commission for the following eight nos. HEPs have been considered for calculation of Gross Generation.

Sl. No.	Name of HEP	capacity in MW	Design Energy in MUs
1	USHP II	105.00	447.37
2	Chennani III	7.50	36.71
3	Sewa III	9.00	33.06
4	Pahalgam	3.00	14.920
5	Igo-Mercellong	3.00	15.88
6	Baderwah	1.00	8.32
7	Marpachoo	0.75	3.79
8	Haftal	1.00	4.88

c) Interest on Loan Capital

Details of loan liabilities and rate of interest thereon and moratorium period for these HEPs are enclosed at Form F8A. Total interest on loans has been worked out as per Clause 22. of JKSERC Regulation NO.5/JKSERC/2005 dated 23.09.2005 and given here under for the year 2011-12.

We are enclosing a note on calculation of Interest on Loan at Annexure – 3 and request Hon'ble Commissioner to consider the same.

(Rs in Million)

Sl. No.	Name of HEP	USHP - II	Chenani - III	Sewa - III	Pahalgam
1	Total cost of project	4349.93	549.68	668.42	552.01
2	MNRE subsidy	0.00	0.00	0.00	30.00
3	Net cost of the project	4349.93	549.68	668.42	522.01
4	Total normative Loan considering 70% of the net cost of the project	3044.95	384.78	467.89	365.40
5	Total normative Equity considering 30% of the net cost of the project	1304.98	164.90	200.52	156.60
6	Rate of Interest on loan	14.50%	15.00%	15.00%	13.00%
7	Interest Amount for the year				
	2011-12	22.08	8.66	10.53	16.63

(Rs in Million)

Sl. No.	Name of HEP	IGO-Merchellong	Bhaderwah	Marpachoo	Haftal
1	Total cost of project	494.23	106.05	128.45	161.30
2	MNRE subsidy	30.00	24.40	17.00	22.50
3	Net cost of the project	464.23	81.65	111.45	138.80
4	Total normative Loan considering 70% of the net cost of the project	324.96	57.15	78.02	97.16
5	Total normative Equity considering 30% of the net cost of the project	139.27	24.49	33.44	41.64
6	Rate of Interest on loan	13.00%	13.00%	13.00%	13.00%
7	Interest Amount for the year				
	2011-12	14.79	2.60	4.56	5.68

d) Depreciation including Advance Against Depreciation

(i) Depreciation

Depreciation has been calculated annually based on Straight Line Method and computed @2.57% on the Project Cost for the financial year 2008-09 considering the useful life of the asset as 35 years. Details of depreciation for these eight HEPs are given as under:-

(Rs in Million)

Sl. No.	Name of HEP	USHP - II	Chenani III	Sewa III	Pahalgam
1	Cost of project excluding Land Cost	4,274.93	535.18	661.42	546.20
2	Residual value	10%	10%	10%	10%
3	Total Depreciation to be claimed	3,847.43	481.66	595.28	491.58
4	Normal depreciation rate	As per Regulations PI ref Annexure – 2			
5	Total depreciation for the year				
	2011-12	92.81	11.07	14.20	13.62

(Rs in Million)

Sl. No.	Name of HEP	IGO-Merchellong	Bhaderwah	Marpachoo	Haftal
1	Cost of project excluding Land Cost	493.48	104.57	127.22	160.83
2	Residual value	10%.	10%.	10%.	10%.
3	Total Depreciation to be claimed	444.13	94.11	114.50	144.75
4	Normal depreciation rate	As per Regulations PI ref Annexure – 2			
5	Total depreciation for the year				
	2011-12	10.55	2.62	2.91	3.37

(ii) Advance Against Depreciation (AAD)

In addition to allowable depreciation, the JKSPDC is entitled to Advance against Depreciation (AAD) also which has been considered as per the formula "Advance against Depreciation = Annual Repayment of Loan – Normal Depreciation" Details of AAD are furnished in the following table:-

(Rs in Million)

Sl. No.	Name of HEP	USHP - II	Chenani - III	Sewa - III	Pahalgam
1	Total Normative Loan Amount	3044.95	384.78	467.89	365.40
2	1/10th off Loan	304.49	38.48	46.79	36.54
3	Annual Repayment of Loan	304.49	38.48	46.79	36.54
4	Normal Depreciation for full year	92.81	11.07	14.20	13.62
5	Advance Against Depreciation				
	2011-12	2.68	27.41	32.59	22.92

(Rs in Million)

Sl. No.	Name of HEP	IGO-Merchellong	Bhaderwah	Marpachoo	Haftal
1	Total Normative Loan Amount	324.96	57.15	78.02	97.16
2	1/10th off Loan	32.50	5.72	7.80	9.72
3	Annual Repayment of Loan	32.50	5.72	7.80	9.72
4	Normal Depreciation for full year	10.55	2.62	2.91	3.37
5	Advance Against Depreciation				
	2011-12	21.94	3.09	4.89	6.35

e) Return on Equity (ROE)

As per provision under Regulation 25 of JKSERC Regulations, 2005, Return on Equity has been considered @ 14% per annum for each of Hydro Power Station.

However, Debt and Equity components have been taken on actual basis for determination of tariff. Details of Return on Equity for these eight HEPs are given as under:-

(Rs in Million)

Sl. No.	Name of HEP	USHP - II	Chenani - III	Sewa - III	Pahalgam
1	Net cost of the Project	4349.93	549.68	668.42	552.01
2	Total normative Equity 30% of the Project Cost	1304.98	164.90	200.52	156.60
3	Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%
4	Return on Equity				
	2011-12	182.70	23.09	28.07	21.92

(Rs in Million)

Sl. No.	Name of HEP	IGO-Merchellong	Bhaderwah	Marpachoo	Haftal
1	Net cost of the Project	494.23	106.05	128.45	161.30
2	Total normative Equity 30% of the Project Cost	139.27	24.49	33.44	41.64
3	Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%
4	Return on Equity				
	2011-12	19.50	3.43	4.68	5.83

f) Operation & Maintenance Expenses

The earliest COD out of these eight HEPs is that of USHP-II Kangan in June, 2002. All the remaining seven HEPs were commercially commissioned subsequent to this date of June, 2002. Thus none of the HEPs was in operation even for 5 years in the base year of 2004-05. Therefore, as per provision under Regulation 26(2)(b) of Regulations, 2005, the Operation & Maintenance Expenses for these eight HEPs have been considered @ 1.5% of the Capital Cost from COD with escalation @ 4% per annum.

The O&M Expenses for these eight HEPs are as under:-

(Rs in Million)

Sl. No.	Name of HEP	USHP - II	Chenani - III	Sewa – III	Pahalgam
1	Total cost of project	4349.93	549.68	668.42	552.01
2	O&M Expenses as per Regulation	1.50%	1.50%	1.50%	1.50%
3	Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%
4	O&M Expenses for the year as per Regulation				
	2011-12	92.91	11.30	13.74	10.49

(Rs in Million)

Sl. No.	Name of HEP	IGO-Merchellong	Bhaderwah	Marpachoo	Haftal
1	Total cost of project	494.23	106.05	128.45	161.30
2	O&M Expenses as per Regulation	1.50%	1.50%	1.50%	1.50%
3	Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%
4	O&M Expenses for the year as per Regulation				
	2011-12	9.39	2.00	2.32	2.92

g) Interest on Working Capital

The requirement of Working Capital & Interest thereon has been computed as per Clause 27 "Interest on Working Capital" of the J&KSERC Notification No.5/JKSERC/2005 dated 23.09.2005. Interest @ 11 % per annum on working capital has been considered which is the Prime Lending Rate (PLR) of Jammu & Kashmir Bank. The calculation of interest on working capital is summarized below:-

Rs in Million)

Sl. No.	Financial Year	2011-12			
	Name of HEP	USHP - II	Chenani - III	Sewa - III	Pahalgam
1	Receivable (2 Months)	104.19	14.00	17.08	14.69
2	O & M Expenses (1 Months)	7.66	0.93	1.13	0.86
3	Spares for Maintenance @ 1%	73.49	8.76	10.65	7.83
4	Escalation in spares @ 6%	4.16	0.50	0.60	0.00
5	Total Working Capital Requirement as per regulation	189.50	24.19	29.47	23.38
6	Rate of Interest	11.00%	11.00%	11.00%	11.00%
7	Interest on working Capital for the year	20.85	2.66	3.24	2.57

Sl. No.	Financial Year	2011-12			
	Name of HEP	Igo-Mercellong	Bhaderwah	Marpachoo	Haftal
1	Receivable (2 Months)	13.08	2.37	3.34	4.15
2	O & M Expenses (1 Months)	0.77	0.17	0.20	0.24
3	Spares for Maintenance @ 1%	7.01	1.50	1.72	2.16
4	Escalation in spares @ 6%	0.00	0.00	0.00	0.00
5	Total Working Capital Requirement as per regulation	20.86	4.04	5.25	6.55
6	Rate of Interest	11.00%	11.00%	11.00%	11.00%
7	Interest on working Capital for the year	2.29	0.44	0.58	0.72

h) Other Expenses

Consultancy charges for Rs 88.00 lac as allowed in tariff order dated 09 11 2010 (Para 2.35 at page 7&8) has been considered in the AFC of respective HEPs in proportion to the capacity in Megawatt (MW). The details are given in the table below:

S. No	Installed capacity	Name of HEP	Cost Break up
	MW		Rs in Lac
1	105	USHP II	30.325
2	7.5	Chenani III	2.166
3	9	Sewa III	2.599
4	3	Pahalgam	0.866
5	3	Igo Merchellong	0.866
6	1	Bhaderwah	0.289
7	0.75	Marpachoo	0.217
8	1	Haftal	0.289

**TOTAL ANNUAL FIXED CHARGES (AFC) AND ANNUAL REVENUE REQUIREMENT (ARR)
(FOR 8 HEPS)**

Based on the above parameters, station-wise AFC & ARR for the Financial Year 2011-12 are given in the following tables:

Annual Fixed Charges

(Rs in Million)

USHP - II HEP

Financial Year	2011-12
O&M Expenses	92.91
Interest on Loan	22.08
Depreciation	92.81
Additional Depreciation	211.68
Return on Equity	182.70
Interest on Working Capital	20.85
Consultancy charges as approved by Commission	3.03
Income Tax	0.00
Total Annual Fixed Cost	626.05

CHENANI - III HEP

Financial Year	2011-12
O&M Expenses	11.30
Interest on Loan	8.66
Depreciation	11.07
Additional Depreciation	27.41
Return on Equity	23.09
Interest on Working Capital	2.66
Consultancy charges as approved by Commission	0.22
Income Tax	0.00
Total Annual Fixed Cost	84.40

SEWA - III HEP

Financial Year	2011-12
O&M Expenses	13.74
Interest on Loan	10.53
Depreciation	14.20
Additional Depreciation	32.59
Return on Equity	28.07
Interest on Working Capital	3.24
Consultancy charges as approved by Commission	0.26
Income Tax	0.00
Total Annual Fixed Cost	102.63

PAHALGAM HEP

Financial Year	2011-12
O&M Expenses	10.49
Interest on Loan	16.63
Depreciation	13.62
Additional Depreciation	22.92
Return on Equity	21.92
Interest on Working Capital	2.57
Consultancy charges as approved by Commission	0.09
Income Tax	0.00
Total Annual Fixed Cost	88.24

IGO MERCHELONG HEP

Financial Year	2011-12
O&M Expenses	9.39
Interest on Loan	14.79
Depreciation	10.55
Additional Depreciation	21.94
Return on Equity	19.50
Interest on Working Capital	2.29
Consultancy charges as approved by Commission	0.09
Income Tax	0.00
Total Annual Fixed Cost	78.55

BADERWAH HEP

Financial Year	2011-12
O&M Expenses	2.00
Interest on Loan	2.60
Depreciation	2.62
Additional Depreciation	3.09
Return on Equity	3.43
Interest on Working Capital	0.44
Consultancy charges as approved by Commission	0.03
Income Tax	0.00
Total Annual Fixed Cost	14.22

MARPACHOO HEP

Financial Year	2011-12
O&M Expenses	2.32
Interest on Loan	4.56
Depreciation	2.91
Additional Depreciation	4.89
Return on Equity	4.68
Interest on Working Capital	0.58
Consultancy charges as approved by Commission	0.02
Income Tax	0.00
Total Annual Fixed Cost	19.97

HAFTAL HEP

Financial Year	2011-12
O&M Expenses	2.92
Interest on Loan	5.68
Depreciation	3.37
Additional Depreciation	6.35
Return on Equity	5.83
Interest on Working Capital	0.72
Consultancy charges as approved by Commission	0.03
Income Tax	0.00
Total Annual Fixed Cost	24.89

SUMMARY OF ANNUAL FIXED CHARGES (AFC) AND ANNUAL REVENUE REQUIREMENT (ARR) FOR EACH HEPS (FOR 8 HEPS)

Fixed charges for supply of energy from the 8 hydro electric projects are given in the table as under:-

a) Total Annual Fixed Charges

Sl. No	Name of HEP	Rs. In million
		Total Annual Fixed Charges 2011-12
1	USHP II	626.05
2	Chenani III	84.40
3	Sewa III	102.63
4	Pahalgam	88.24
5	Igo-Merchellong	78.55
6	Bhaderwah	14.22
7	Marpachoo	19.97
8	Haftal	24.89

b) Indicative Tariff

Based on the Annual Fixed Charges and the Design Energy, the individual tariff for the HEPs is worked out as under:-

(Rs. per kWh)

Sl. No	Name of HEP	Indicative Tariff
	Year	2011-12
1	USHP II	1.42
2	Chenani III	2.32
3	Sewa III	3.14
4	Pahalgam	5.97
5	IGO-Merchellong	5.00
6	Bhaderwah	1.73
7	Marpachoo	5.32
8	Haftal	5.15

7. B. DETERMINATION OF TARIFF FOR 10 HEPs

The Hon'ble Commission has already approved the completion cost of 10 HEPs. Accordingly the tariff has been calculated with the procedure defined in Chapter 4. of JKSERC Regulations, 2005 dated 23.09.2005:-

Sl. No.	Name of HEP	Capacity MW	COD
1.	Upper Sind-I	22.6	Dec, 1973, July 1974
2.	Lower Jhelum	105	Feb, 1978, Jan. 1979, Nov. 1979
3.	Ganderbal	15	Feb, 1955, 1961
4.	Chenani-I	23.3	1971, 1975
5.	Karnah	2	1991, 1997
6.	Iqbal Bridge	3.75	Oct, 1995, 1996 & 1996
7	Bazgo	0.30	1994
8	Sumoor	0.10	1993
9	Hunder	0.4	1995
10	Chenani-II	2	1996

As defined in the said Regulations, the two part tariff for sale of electricity from a hydro power station shall comprise of recovery of Annual Capacity Charges and primary Energy Charges. Accordingly following have been considered for tariff Petition:-

Annual Fixed Charges:

The Annual Fixed Charges (AFC) consists of:-

- (i) Interest on Loan Capital
- (ii) Depreciation including Advance Against Depreciation
- (iii) Return on Equity
- (iv) Operation & Maintenance Expenses
- (v) Interest on Working Capital
- (vi) Other Expenses as approved by the Commission

The assumptions considered for 10 HEPs are given below:

S No	Particulars	Unit	Value	
1	Auxiliary Consumption		With Rotating Excitation	With Static Excitation
	Surface	%	0.20	0.50
	Underground	%	0.40	0.70
2	Transformation Losses	%	0.50	-
3	O&M Expenses	Rs Lac/MW	As per actual expenses for the year 2009-10	
4	Annual Escalation	%	4.00	
5	Depreciation			
	Plant Life	Years	As per Regulations	
	Residual life	Years	10	
	Advance Against Depreciation	Nil		
6	Working Capital			
	Receivable	months	2	of Fixed Charges
	O & M Expenses	months	1	
	Spares for Maintenance	%	Nil	
	Escalation in Spares Inventory	%	Nil	
	Rate of Interest	%	11 as per PLR of J&K Bank as on 1.4.2005	
7	Return on Equity	%	14	
8	Equity	%	30	
	Loan		Nil	

a) Project Cost

Project costs of the 10 HEPs as approved by the Hon'ble Commission is as given under:-

Sl. No.	Name of HEP	Capacity in MW	Total Project Cost Rs in Million
1	Upper Sind-I	22.6	462.62
2	Lower Jhelum	105	4212.45
3	Ganderbal	15	159.48
4	Chenani-I	23.3	784.91
5	Karnah	2	135.45
6	Iqbal Bridge	3.75	246.33
7	Bazgo	0.3	21.59
8	Sumoor	0.1	6.978
9	Hunder	0.4	28.62
10	Chenani-II	2	117.3

b) Design Energy

The Design Energy as validated by the consultant and approved by the Hon'ble Commission for the following ten nos. HEPs have been considered for calculation of Gross Generation.

Sl. No.	Name of HEP	Capacity in MW	Design Energy in MUs
1	USHP - I	22.6	106.62
2	Lower Jhelum	105	609.43
3	Ganderbal	15	90.15
4	Chenani-I	23.3	110.02
5	Karnah	2	11.36
6	Iqbal Bridge	3.75	21.23
7	Bazgo	0.3	1.09
8	Sumoor	0.1	0.45
9	Hunder	0.4	1.77
10	Chenani-II	2	12.00

c) Interest on Loan Capital

No Interest on Loan has been considered.

d) Depreciation including Advance Against Depreciation**(i) Depreciation**

Depreciation has been calculated annually based on Straight Line Method and computed @2.57% on the Project Cost for the financial year 2008-09 considering the useful life of the asset as 35 years. Details of depreciation for these ten HEPs are given as under:-

(Rs in Million)

Sl. No.	Name of HEP	UHP-I	LJHP	Ganderbal	Chenani-I	Karnah
1	Cost of project excluding Land Cost	462.62	4212.45	159.48	785.11	135.45
2	Residual value	10%.	10%.	10%.	10%.	10%.
3	Total Depreciation to be claimed	416.36	3809.21	143.53	706.60	121.91
4	Normal depreciation rate	As per Regulations PI ref Annexure – 2				
5	Total depreciation for the year					
	2011-12	10.24	93.35	3.25	15.35	2.95

(Rs in Million)

Sl. No.	Name of HEP	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani-II
1	Cost of project excluding Land Cost	246.33	21.59	6.978	28.62	117.3
2	Residual value	10%	10%	10%	10%	10%.
3	Total Depreciation to be claimed	221.69	19.43	6.28	25.76	105.57
4	Normal depreciation rate	As per Regulations PI ref Annexure – 2				
5	Total depreciation for the year					
	2011-12	5.53	0.48	0.16	0.63	2.45

(ii) Advance Against Depreciation (AAD)

Advance against depreciation considered as zero.

e) Return on Equity (ROE)

As per provision under Regulation 25 of JKSERC Regulations, 2005, Return on Equity has been considered @ 14% per annum for each of Hydro Power Station.

However, Debt and Equity components have been taken on actual basis for determination of tariff. Details of Return on Equity for these ten HEPs are given as under:-

(Rs in Million)

Sl. No.	Name of HEP	UHP-I	LJHP	Ganderbal	Chenani-I	Karnah
1	Net cost of the Project	462.62	4212.45	159.48	785.11	135.45
2	Total normative Equity 30% of the Project Cost	138.79	1263.73	47.84	235.53	40.64
3	Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%	14.00%
4	Return on Equity					
	2011-12	19.43	176.92	6.70	32.97	5.69

(Rs in Million)

Sl. No.	Name of HEP	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani-II
1	Net cost of the Project	246.33	21.59	6.978	28.62	117.3
2	Total normative Equity 30% of the Project Cost	73.90	6.48	2.09	8.59	35.19
3	Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%	14.00%
4	Return on Equity					
	2011-12	10.35	0.91	0.29	1.20	4.93

f) Operation & Maintenance Expenses

The O&M Expenses for these ten HEPs has been calculated taking the actual O&M expenses for the year 2009-10 as the base and annual escalation @4% thereafter. (Please see the Annexure-1 for further details). The details of annual O&M cost is as under:-

(Rs in Million)

Sl. No.	Name of HEP	UHP-I	LJHP	Ganderbal	Chenani-I	Karnah
1	Total cost of project	462.62	4212.45	159.48	785.11	135.45
2	O&M Expenses as per Regulation	Actual O&M Expenses for the year 2009-10				
3	Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%	4.00%
4	O&M Expenses for the year as per Regulation					
(i)	2009-10	43.20	106.78	37.51	29.03	21.50
(ii)	2010-11	44.93	111.05	39.01	30.19	22.36
(iii)	2011-12	46.73	115.49	40.57	31.40	23.25

(Rs in Million)

Sl. No.	Name of HEP	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani-II
1	Total cost of project	246.33	21.59	6.978	28.62	117.3
2	O&M Expenses as per Regulation	Actual O&M Expenses for the year 2009-10				
3	Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%	4.00%
4	O&M Expenses for the year as per Regulation					
(i)	2009-10	18.04	1.38	1.39	2.01	3.51
(ii)	2010-11	18.76	1.44	1.45	2.09	3.65
(iii)	2011-12	19.51	1.49	1.50	2.17	3.80

The Hon'ble Commission has allowed JKSPDC to submit the actual O&M expenses or the past 5 years and based on this the O&M expenses or the year 2009-10 and 2010-11 shall be revised.

We now request Hon'ble Commission to kindly pass the order for additional payment for the difference as per table below:

Rs in Millions

Year	O&M Expenses		Difference to be recovered
	Allowed	Actual	
2009-10	96.10	264.345	168.245
2010-11	100.20	274.919	174.719

g) Interest on Working Capital

The requirement of Working Capital & Interest thereon has been computed as per Clause 27 "Interest on Working Capital" of the J&KSERC Notification No.5/JKSERC/2005 dated 23.09.2005. Interest @ 11 % per annum on working capital has been considered which is the Prime Lending Rate (PLR) of Jammu & Kashmir Bank. The calculation of interest on working capital is summarized below:-

(Rs in Million)

Sl. No.	Financial Year	2011-12				
	Name of HEP	USH-I	LJHP	Ganderbal	Chenani-I	Karnah
1	Receivable (2 Months)	13.53	68.21	8.93	14.15	5.50
2	O & M Expenses (1 Months)	3.89	9.62	3.38	2.62	1.94
3	Spares for Maintenance @ 1%	19.88	108.09	11.74	24.07	2.37
4	Escalation in spares @ 6%					
5	Total Working Capital Requirement as per regulation	37.30	185.92	24.06	40.83	9.81
6	Rate of Interest	11.00%	11.00%	11.00%	11.00%	11.00%
7	Interest on working Capital for the year	4.10	20.45	2.65	4.49	1.08

(Rs in Million)

Sl. No.	Financial Year	2011-12				
	Name of HEP	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani-II
1	Receivable (2 Months)	6.14	0.50	0.34	0.70	1.96
2	O & M Expenses (1 Months)	1.63	0.12	0.13	0.18	0.32
3	Spares for Maintenance @ 1%	4.73	0.38	0.13	0.51	2.53
4	Escalation in spares @ 6%					
5	Total Working Capital Requirement as per regulation	12.50	1.01	0.59	1.39	4.80
6	Rate of Interest	11.00%	11.00%	11.00%	11.00%	11.00%
7	Interest on working Capital for the year	1.38	0.11	0.07	0.15	0.53

h) Other Expenses

Consultancy charges for Rs 88.00 lac as allowed in tariff order dated 09 11 2010 (Para 2.35 at page 7&8) has been considered in the AFC of respective HEPs in proportion to the capacity in Megawatt (MW). The details are given in the table below:

S. No	Installed capacity MW	Name of HEP	Cost Break up Rs in Lac
1	22.6	USHP I	6.527
2	105	LJHP	30.325
3	15	Ganderbal	4.332
4	23.3	Chenani I	6.729
5	2	Karnah	0.578
6	3.75	Iqbal	1.083
7	0.3	Bazgo	0.087
8	0.1	Sumoor	0.029
9	0.4	Hunder	0.116
10	2	Chenani II	0.578

**TOTAL ANNUAL FIXED CHARGES (AFC) AND ANNUAL REVENUE REQUIREMENT (ARR)
(FOR 10 HEPs)**

Based on the above parameters, station-wise AFC & ARR for the Financial Year 2011-12 are given in the following tables:

Annual Fixed Charges**(Rs in Million)****USHP - I HEP**

Financial Year	2011-12
O&M Expenses	46.73
Interest on Loan	0.00
Depreciation	10.24
Return on Equity	19.43
Interest on Working Capital	4.10
Consultancy charges as approved by Commission	0.65
Total Annual Fixed Cost	81.15

Lower Jhelum HEP

Financial Year	2011-12
O&M Expenses	115.49
Interest on Loan	0.00
Depreciation	93.35
Return on Equity	176.92
Interest on Working Capital	20.45
Consultancy charges as approved by Commission	3.03
Total Annual Fixed Cost	409.25

Ganderbal HEP

Financial Year	2011-12
O&M Expenses	40.57
Interest on Loan	0.00
Depreciation	3.25
Return on Equity	6.70
Interest on Working Capital	2.65
Consultancy charges as approved by Commission	0.43
Total Annual Fixed Cost	53.60

Chennai-I HEP

Financial Year	2011-12
O&M Expenses	31.40
Interest on Loan	0.00
Depreciation	15.35
Return on Equity	32.97
Interest on Working Capital	4.49
Consultancy charges as approved by Commission	0.67
Total Annual Fixed Cost	84.89

Karnah HEP

Financial Year	2011-12
O&M Expenses	23.25
Interest on Loan	0.00
Depreciation	2.95
Return on Equity	5.69
Interest on Working Capital	1.08
Consultancy charges as approved by Commission	0.06
Total Annual Fixed Cost	33.03

Iqbal Bridge HEP

Financial Year	2011-12
O&M Expenses	19.51
Interest on Loan	0.00
Depreciation	5.53
Return on Equity	10.35
Interest on Working Capital	1.38
Consultancy charges as approved by Commission	0.11
Total Annual Fixed Cost	36.87

Bazgo HEP

Financial Year	2011-12
O&M Expenses	1.49
Interest on Loan	0.00
Depreciation	0.48
Return on Equity	0.91
Interest on Working Capital	0.11
Consultancy charges as approved by Commission	0.01
Total Annual Fixed Cost	3.00

Sumoor HEP

Financial Year	2011-12
O&M Expenses	1.50
Interest on Loan	0.00
Depreciation	0.16
Return on Equity	0.29
Interest on Working Capital	0.07
Consultancy charges as approved by Commission	0.00
Total Annual Fixed Cost	2.02

Hunder HEP

Financial Year	2011-12
O&M Expenses	2.17
Interest on Loan	0.00
Depreciation	0.63
Return on Equity	1.20
Interest on Working Capital	0.15
Consultancy charges as approved by Commission	0.01
Total Annual Fixed Cost	4.17

Chenani-II HEP

Financial Year	2011-12
O&M Expenses	3.80
Interest on Loan	0.00
Depreciation	2.45
Return on Equity	4.93
Interest on Working Capital	0.53
Consultancy charges as approved by Commission	0.06
Total Annual Fixed Cost	11.76

SUMMARY OF ANNUAL FIXED CHARGES (AFC) AND ANNUAL REVENUE REQUIREMENT (ARR) FOR EACH HEPS (FOR 10 HEPS)

Fixed charges for supply of energy from the following 10 hydro electric projects are given in the table as under:-

a) **Total Annual Fixed Charges**

(Rs in Million)

Sl. No	Name of HEP	Total Annual Fixed Charges
	Year	2011-12
1	USHP - I	81.15
2	Lower Jhelum	409.25
3	Ganderbal	53.60
4	Chenani I	84.89
5	Karnah	33.03
6	Iqbal	36.87
7	Bazgo	3.00
8	Sumoor	2.02
9	Hunder	4.17
10	Chenani-II	11.76

b) **Indicative Tariff**

Based on the Annual Fixed Charges and the Design Energy, the individual tariff for these HEPs is worked out as under:-

(Rs. per kWh)

Sl. No	Name of HEP	Indicative Tariff
	Year	2011-12
1	USHP I	0.77
2	Lower Jhelum	0.68
3	Ganderbal	0.60
4	Chenani I	0.78
5	Karnah	2.94
6	Iqbal	1.75
7	Bazgo	2.78
8	Sumoor	4.53
9	Hunder	2.38
10	Chenani-II	0.99

7. C. DETERMINATION OF TARIFF FOR BAGLIHAR STAGE I HEP

The Baglihar HEP was declared commercially operational on 1st April 2009 along with 67 KM of 400 kV D/C transmission line from Baglihar to Kishaenpur for evacuation of power from the project. The 400 kV D/C transmission line has been connected with 2 nos. 400 kV lines terminating bays at Grid sub-station Kishaenpur of PGCIL.

The tariff petition for Baglihar Hydro Electric Project for the year 2009-10 and 2010-11 has been submitted as per the directives of Hon'ble Commission in December 2010. We are now submitting the petition for the year 2011-12 assuming the same parameters.

Sl. No.	Name of HEP	Capacity MW	COD
1.	Baglihar	450	1.04.2009

Net Project Cost (Rs. in Crore)

Project Cost	5827.17
Less Revenue from Infirm Power	-25.97
Net Project Cost	5801.20
IDC	757.30
Net Basic Cost of Project	5043.90

The Net cost has been further bifurcated for Hydro project and Transmission System as follows:

Cost of Hydro Project (Rs. in Crore)

Basic Cost of the Project	4891.60
IDC	734.30
Total Project Cost(Hydro)	5625.90

Cost of Transmission Works (Rs. in Crore)

Basic cost	152.3
IDC	23.00
Total cost of Transmission	175.30

For Baglihar - Hydro for FY 2011-12

The tariff for this is submitted as per directive of Hon'ble Commission and procedure defined in chapter 1 and chapter -2 of JKSERC (terms & conditions of determination of hydro generation tariff) Regulation 2005 dated 23-09-2005

For Baglihar – Transmission System for FY 2011-12

JKSERC has not issued any Regulations for Transmission system. The tariff petition for this has been prepared based on the regulations of Central Electricity Regulatory Commission dated 19-01-2009 applicable for the years 2009-14

COMPUTATION OF ANNUAL CAPACITY CHARGES

As defined in the Regulation, two part tariff shall comprise of recovery of Annual capacity charges and primary energy charges.

The capacity charges have been computed in accordance with the following formula.

Capacity charges = Annual Fixed Charges – Primary Energy charges

ANNUAL FIXED CHARGES

The Annual Fixed charges (AFC) consists of:-

- a) Interest on Loan capital
- b) Depreciation including Advance Against Depreciation
- c) Return on Equity
- d) Operation & Maintenance Expenses
- e) Interest on Working capital

Following norms/ assumptions as prescribed in Chapter – 3 of JKSERC Regulation 2005 dated 23-09-2005 have been considered for filing the tariff for Baglihar-Hydro excluding transmission system.

Assumptions for Hydro Power Project excluding transmission system are given below:-

S No	Particulars	Unit	Value	
1	Auxiliary Consumption		With Rotating Exciter	With Static Excitation
	Surface	%	0.20	0.50
	Underground	%	0.40	0.70
2	Transformer Losses	%	0.50	0.50
3	Transmission losses	%	0.30	0.30
4	O&M Expenses			
	% of Cap Cost	%	1.50	
	Annual Escalation	%	4.00	
5	Depreciation		As per regulation	
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation		
6	Working Capital			
	Receivable	months	2	of Fixed Charges
	O & M Expenses	months	1	
	Spares for Maintenance	%	1	of historic cost
	Escalation in Spares Inventory	%	6	
	Rate of Interest p.a.	%	14.50	as per PLR of J&K Bank as on 1.4.2009
7	Return on Equity	%	14	of normative equity
8	Initial Spares as part of Capital Cost	%	1.50	
9	Equity	%	30	
	Loan	%	70	
10	Interest	%	as per sanction	
11	Moratorium		No moratorium after COD	

Assumptions for transmission system are given below:-

400kV Transmission system

As JKSERC has not issued any Regulations for transmission system, the AFC calculations for transmission system have been based on the Regulations of Central Electricity Regulatory Commission applicable for the years 2009-14 published on 19th January, 2009.

The Assumption for the transmission line is given below:-

S No	Particulars	Unit	Value	
1	O&M Expenses			
	Annual O&M Cost of Line per KM	Rs in Million	0.0627	As per CERC Regulation for FYs 2009-14
	Annual O&M Cost per Bay	Rs in Million	5.24	
	Annual Escalation	%	5.72	
2	Depreciation			
	Plant Life 35 Yrs, Residual life 10%	%	2.57	
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation		
3	Working Capital			
	Receivable	months	2	of Fixed Charges
	O & M Expenses	months	1	
	Spares for Maintenance	%	1	of historic cost
	Escalation in Spares Inventory	%	6	
	Rate of Interest	%	14.50	PLR of J&K Bank as on 1.4.2009
4	Return on Equity	%	14	
5	Initial Spares as part of Capital Cost	%	1.50	
6	Equity	%	30	
	Loan	%	70	
7	Interest	%	Weighted Average	
8	Moratorium		No moratorium after COD	

a) Project Cost as on 31 03 2011

Net cost of the Baglihar - Hydro and Baglihar - Transmission system derived from project cost of the HEP after adjusting the revenue received from infirm power is given as under:

Rs. In Crore			
Sl. No.	Name of Project	Capacity in MW	FY 2010-11 (31-3-2011)
1	Baglihar –Hydro	450	5454.45
2	Baglihar -Transmission System		168.03

b) Design Energy

The Design Energy as validated by the consultant for Baglihar HEP has been considered for calculation of Gross Generation.

Sl. No.	Name of HEP	capacity in MW	Design Energy in MUs / GWH
1	Baglihar-HEP Stage-I	450	2536.07

c) Interest on Loan Capital

Details of loan liabilities and rate of interest for the HEP including transmission system are given in para 21 above. Total interest on loan has been worked out as per clause 22 of JKSERC Regulation 2005 dated 23-09-2005 for Baglihar-Hydro and as per CERC Regulations dated 19-1-2009 for Baglihar-Transmission system and given here under for the years 2009-10 and 2010-11

Rs. in Crore		
Sl. No.	Name of HEP	Baglihar- Hydro
	Year	2011-12
1	Net Cost	5454.45
2	Equity 30% for tariff purpose	1636.33
3	Debt + Subsidy (70% of the net cost)	3818.11
4	Subsidy	539.29
5	Debt for Tariff purpose	3278.82
6	Loan re-paid during earlier years	593.29
7	Loan at the beginning of the year	2685.53
8	Repayment of loan (Normal depreciation + AAD)	327.88
9	Loan at the end of the year	2357.64
10	Average of the loan	2521.5849
11	Rate of Interest on loan	10.40%
12	Interest on the loan	262.28

Sl. No.	Name of HEP	Transmission System
	Year	2011-12
1	Net Cost	168.03
2	Equity 30% for tariff purpose	50.41
3	Debt + Subsidy (70% of the net cost)	117.62
4	Subsidy	16.71
5	Debt for Tariff purpose	100.92
6	Loan re-paid during earlier years	20.18
7	Loan at the beginning of the year	80.73
8	Repayment of loan (Normal depreciation + AAD)	10.09
9	Loan at the end of the year	70.64
10	Average of the loan	75.6865
11	Rate of Interest on loan	10.40%
12	Interest on the loan	7.87

d) **Depreciation including Advance Against Depreciation**

I. **Depreciation:**

(i) For Baglihar – Hydro

The depreciation has been calculated annually based on straight line method over the useful life of the assets as per regulation 23 of Chapter 4 of JKSERC Regulation 2005 dated 23.09.2005 and at the rates prescribed in Appendix of this regulation. The residual life of the asset has been considered as 10% of the historical capital cost. Land cost has been excluded from the capital cost while computing 90% of the historical cost of the asset.

(ii) For Baglihar – Transmission System

Depreciation has been calculated annually based on Straight Line Method and computed @2.57% of Baglihar Transmission system considering the useful life of the assets as 35 years.

The following Formats / Annexure have been attached for calculation of depreciation.

- (a) Break up of Capital Cost for Baglihar HEP Stage-I – **Form No. F5A.**
- (b) Net project cost, equity, debt for Baglihar – Hydro, Baglihar Transmission System & for final estimated cost – **Form No. F5B.**
- (c) Break up of cost & depreciation for FY 2011-12 – **Annexure – B1**
- (d) Depreciation for Baglihar – Transmission System for FY 2011-12 – **Annexure – B2**

Rs in Crore

Sl. No.	Description	FY 2011-12	
		Baglihar –Hydro	Baglihar – Transmission System
1.	Depreciation	119.15	4.32

II. Advance against Depreciation (AAD)

In addition to allowable depreciation, JKSPDC is also entitled to Advance against depreciation (AAD) as per Regulation 24 of Chapter 4 of JKSERC Regulation 2005 dated 23.09.2005 has been considered as per the formula given below:-

Advance against depreciation = Annual repayment of loan – normal depreciation

Details of AAD are furnished in the following table:-

Sl. No.	Name of HEP	Baglihar- Hydro
1	Year	FY 2011-12
2	Total Normative Loan Amount	3278.82
3	Annual Repayment of Loan 1/10th	327.88
4	Normal Depreciation for full year	119.15
5	Advance Against Depreciation	208.74

Sl. No.	Name of HEP	Transmission System
1	Year	FY 2011-12
2	Total Normative Loan Amount	100.92
3	Annual Repayment of Loan 1/10th	10.09
4	Normal Depreciation for full year	4.32
5	Advance Against Depreciation	5.77

e) Return on Equity

As per Regulations 25 Chapter 4 of JKSERC Regulation 2005 dated 23-04-2005 Return on Equity has been considered @ 14% per annum for hydro Power stations and Transmission system. Details of Return on Equity are given as under:-

Sl. No.	Name of HEP	Baglihar- Hydro
1	Year	FY 2011-12
2	Net cost of the Project	5454.45
3	Total normative Equity 30% of the Project Cost	1636.33
4	Rate of Return on Equity	14.00%
5	Return on Equity	229.09

Sl. No.	Name of HEP	Transmission System
1	Year	FY 2011-12
2	Net cost of the Project	168.03
3	Total normative Equity 30% of the Project Cost	50.41
4	Rate of Return on Equity	14.00%
5	Return on Equity	7.06

f) Operation & Maintenance expenses

The operation and maintenance expenses has been calculated as per Regulation 26(2) (b) of JKSERC Regulation 2005 dated 23-09-2005 taking 1.5% of the final estimated completion cost for 2009-10 (COD) and escalated @4% per annum for the year 2010-11. The O & M expenses for both the years given below. The O&M expenses for transmission system has been calculated as per CERC Regulations

Sl. No.	Name of HEP	Baglihar- Hydro
1	Year	FY 2011-12
2	Final estimated completion cost	5513.47
3	O & M Expenses	1.50%
4	Annual Escalation in O & M expenses	4.00%
5	O & M Expenses for the year	89.45

Sl. No.	Name of HEP	Transmission System
1	Year	FY 2011-12
2	Final estimated completion cost	170.79
3	O & M Expenses	***
4	Annual Escalation in O & M expenses	5.72%
5	O & M Expenses for the year	1.65
***	Annual O&M Cost of Line Mi Rs. per KM	0.0627 Mi Rs/KM
	Annual O&M Cost per Bay	5.24 Mi Rs/Bay
	Length of Line	68 KM
	No of Bays	2 no

An agreement for operation and maintenance of Baglihar HEP between JKSPDC and NHPC Limited has been made and entered on 31-3-2009 for a period of 24 months. A copy of the same has already been submitted with earlier petition.

g) Interest on working capital

The requirement of working capital and interest thereon has been computed as per Clause 27 "interest on working capital" of the J&K SERC notification No. 5/JKSERC/2005 dated 23.09.2005, Interest @14.50% per annum on working capital has been considered which is the short term prime lending rate of Jammu & Kashmir as on 1-4-2009. The calculation of working capital and interest is summarized below:-

Sl. No.	Description	Unit	Months	Baglihar-Hydro
1	Year			FY 2011-12
2	Receivable	Rs in Crore	2	156.83
3	O & M Expenses	Rs in Crore	1	7.45
4	Spares	%	1.00%	58.44
5	Escalation in spares	%	6.00%	
6	Total Working Capital	Rs in Crore		222.7
7	Working Capital Loan	Rs in Crore		222.7
8	Rate of Interest	%	14.50%	14.50%
9	Interest on working capital	Rs in Crore		32.30

Sl. No.	Description	Unit	Months	Transmission System
1	Year			FY 2011-12
2	Receivable	Rs in Crore	2	4.60
3	O & M Expenses	Rs in Crore	1	0.14
4	Spares	%	1.00%	1.81
5	Escalation in spares	%	6.00%	
6	Total Working Capital	Rs in Crore		6.6
7	Working Capital Loan	Rs in Crore		6.6
8	Rate of Interest	%	14.50%	14.50%
9	Interest on working capital	Rs in Crore		0.95

Based on the above parameters AFC for the Financial Year 2011-12 is given in the following Table:-

Total Annual Fixed Cost

Financial Year	FY 2011-12
O&M Expenses	89.45
Interest on Loan	262.28
Depreciation	119.15
Additional Depreciation	208.74
Return on Equity	229.09
Interest on Working Capital	32.30
Income Tax	0.00
Total Annual Fixed Cost	941.00
Net Saleable Energy in MU	2498.03
Indicative Tariff Rs. per kWh	3.77

Transmission Line**Annual Fixed Cost**

Financial Year	FY 2011-12
O&M Expenses	1.65
Interest on Loan	7.87
Depreciation	4.32
Additional Depreciation	5.77
Return on Equity	7.06
Interest on Working Capital	0.95
Income Tax	0
Total Annual Fixed Cost	27.62
Net Saleable Energy in MU	2498.03
Indicative Tariff Rs. per kWh	0.11

Summary of Total Annual Fixed Charges (AFC) and Annual Revenue Requirement (ARR):

(Rs in Crore)

Sl. No.	Name of HEP	Total Annual Fixed Cost
1	Year	2011-12
2	BAGLIHAR - Hydro	941.00
3	Baglihar-Transmission System	27.62
4	TOTAL	968.62

Total AFC for PDD (50%) - Rs 484.31 Crore

(Rs. per kW)

Sl. No.	Name of HEP	Indicative Tariff
1	Year	2011-12
2	BAGLIHAR - Hydro	3.77
3	Baglihar-Transmission System	0.11
4	TOTAL	3.88

7. D. GAS TURBINES I & II

The Gas Power Station I and II are operated on the directions of the Power Development Department / State Government. The T & D utility (PDD) allows its operation only in acute emergency condition because of high / prohibitive cost of fuel for generation.

As JKSPDC has to maintain the gas turbines in running conditions to operate in emergency, staff has been provided and timely plant maintenance is also being carried out by the JKSDPC

For this purpose, JKSDC is required to be compensated with the Actual O&M Charges

We request Hon'ble Commission that suitable directions be issued for the reimbursement of these O&M charges as per the details given in the table below:

7. E. MOHRA HEP

The Mohra HEP is not generating any power at present. However the switchyard is being used for the power distribution by PDD and therefore the JKSPDC must get Annual Fixed Charges amounting to Rs.34.95 Million on account of salary, wages and O&M Expenses.

As per directives of the Hon'ble Commission the assets of Sub-station etc are to be transferred to Power Development Department (PDD) and we have requested Development Commissioner Power, PDD for taking over of these assets vide letter no JKPDC/Acctts/4463-65 dated 19th January, 2011. However, till the assets are transferred all the expenses incurred by us should be reimbursed by PDD.

8. OPTIMISATION OF GENERATION – ADDITIONAL CAPITALISATION

Requirement of Renovation & Modernization, Stabilization, Major Repair Works and Additional Capitalization of HEPs

A. RM&U of Projects:

Hydro power stations in Indian context are generally designed for useful operational life of about 35 years. Degradation of equipments starts from commencement of regular operation of the power plant. Because of this performance of the plants gradually deteriorates. Before the plants complete their useful life and are retired fully, they are subjected to Renovation and Modernization for bringing their performance back to a reasonable level. Even during the normal life of the plants, RMU programme is required to be undertaken periodically. The objectives of Renovation & Modernization are:-

- (i) To arrest the deterioration in performance
- (ii) To improve availability, reliability, efficiency and safety of the equipment
- (iii) To regain lost capacity
- (iv) To extend useful life beyond designated life.
- (v) To save investments on new equipment

With above considerations, the Board of Directors of JKSPDC has approved programme for taking up Renovation & Modernization of seven HEPs at a cost of Rs. 208.96 crore.

State Government vide its letter dated 14.01.2008 has also approved taking of RMU of seven major HEPs. Loan assistance of Rs. 133.95 crore has been tied up with Power Finance Corporation out of which Rs. 32.93 crore has already been availed. Further, Ministry of New & Renewable Energy (MNRE) has also approved subsidy of Rs. 32.94 crore for the six HEPs out of which an amount of Rs. 0.55 crore has been disbursed.

Accordingly JKSPDC has taken up for RM&U of following 7 HEPs being financed by PFC, State Government and subsidy from MNRE as given below:-

Name of the HEP	Envisaged completion cost	Debt from PFC	Subsidy from MNES	Rs. in Crore
				Equity from State Govt.
105 MW LJHP	101.3	71	-	30.3
22.6 MW USHP-I	25	14.65	10.35	0
23.3 MW Chenani-I	39.14	24.3	10.61	4.23
15 MW Ganderbal	39.3	24	10	5.3
300 kW Bazgo	1.32	-	0.74	0.58
400 kW Hunder	1.77	-	0.94	0.83
100 kW Sumoor	1.13	-	0.3	0.83
Total	208.96	133.95	32.94	42.07

Works on these projects have already been started since 2009-10. Details of expenditure incurred and approved (budgeted) for the current year on these works are as under.

Most of the works have already been awarded and will be completed by the end of 2011-12.

Sl. No.	Name of HEP	Approved Cost	Cumulative Expenditure up to 3/2010	2010-11		During 2011-12*
				Actual up to Dec. 2010	Projected from 01/2011 to 03/2011	
1	LJHP	101.3	56.43	12.02	22.9	9.95
2	Chenani-I	25.6	1.43	2.06	5.01	17.1
3	USHP-I	39.14	7.53	5.57	8.6	17.44
4	Ganderbal	39.3	1.16	5.08	6.17	26.88
5	Sumoor	1.32	0.43	0.14	0.19	0.56
6	Hunder	1.77	0.62	0.6	0.9	0
7	Bazgo	1.13	0.47	0.56	0.54	0
	Total	209.56	68.07	26.02	44.31	71.94

* The envisaged provision for 2011-12 is based on the approved cost of 2005. Revised financial implications to be worked out for which DPRs are under preparation.

After completion of RMU works there will be increase in annual generation from these HEPs. Likely increase in annual energy generation as worked out by CEA during its appraisal report after RM&U of four main HEPs namely, LJHP, Chenani-I, USHP-I and Ganderbal is given below. In terms of financial returns the annual proceeds from the sale of energy from these four projects would be substantial to the tune of Rs.33 crore. In addition this will ensure that these old power stations operate for additional period without any major overhauling requirements.

Project	Installed capacity (MW)	Annual Generation in MUs	Annual Increase in generation in MUs	Expected Generation after RM&U in MUs
LJHP	105	412.1	81.6	493.7
USHP-I	22.6	89.36	13.24	102.6
Ganderbal	15	22.33	63.64	85.97
Chenani I	23.3	71.32	33.85	105.17

Renovation and modernization of three other projects viz. Sumoor, Hunder and Bazgo will also have a positive impact from monetary as well as energy availability point of view. The RMU programme will be a cyclic feature aimed at optimizing power generation and prolonging the life of the projects.

Two more projects namely Karnah & Iqbal Bridge are being taken up for RMU. Non-Operational project at Mohra, the oldest HEP of the State (one of the country's oldest power house) established in 1905, is being taken up for restoration. This project requires to be maintained as a heritage project also. 1 MW Haftal project not operating to its optimum capacity is also proposed to be taken up for RMU beside augmenting its capacity by additional 1 MW (2x500 kW) . DPRs for the purpose are under preparation after which these will be processed for financing from Financial Institutions & subsidy from MNRE. RMU of these projects is expected to start from 2011-2012.

B. Stabilization

There are a number of HEPs which are not operating as per the designed capacity or face breakdown frequently. These HEPs are located in remote and far flung areas and are operating under harsh climatic conditions. Capital expenditure was required to be incurred to stabilize these power houses and keep them operational as O&M expenses alone were not enough to cover such expenses. Details of these HEPs are given as under:-

1. Iqbal

An expenditure of Rs.41.11 lac was incurred in the year 2009-10 on procurement of one gear box and construction of residential quarters for Executive Engineer (Restoration). An amount of Rs.104.58 lac is being incurred during the current financial year for its restoration with breakup as under:-

- (a) Civil works: - Rs.44.63 lac
- (b) Electro-mechanical works: - Rs. 59.95 lac

Major activities being undertaken are:-

- (i) Repair of gates and gearing, renovation of power house building, fixing of sluice valves, communication.
- (ii) Procurement of parts for Oil Pressure Unit, LA&VT panel for generator, Neutral Grounding Reactor panel and auxiliary works like transformer and DG sets rehabilitation etc. and subsequent installation.

2. Chenani-II

An expenditure of Rs.32.51 lac was incurred in the year 2009-10 on water conductor. For the current year, an amount of Rs.104.95 lac is being incurred for its restoration with breakup as under:-

- a) Civil works: - Rs.82.24 lac
- b) Electro-mechanical works: - Rs. 22.71 lac

Major works are:-

- (i) Rehabilitation works of water conductor, improvement of fore bay, remodeling of catch water drain and demarcation of boundary of department land.
- (ii) Procurement, installation, testing of electronic speed governor, temperature scanner, AVR, energy meters and replacement of cables and rehabilitation of machine hall.

3. Chenani-III

An expenditure of Rs.154.37 lac was incurred in the year 2009-10 on partial restoration of water conductor. An amount of Rs.335.05 lac is being incurred for the balance works of restoration with breakup as under:-

- a) Civil works: - Rs.144.70 lac
- b) Electro-mechanical works: - Rs. 190.35 lac

Major activities are as:-

- (i) Procurement, installation & commissioning of 3 turbine shafts and overhauling of the units.
- (ii) Clearance of silt, improvement and restoration of project roads, improvement of water conductor, restoration works in TRT, treatment to leakages of pressure duct, de-silting of BR and various security related works.

4. Sewa-III

An expenditure of Rs.290.34 lac was incurred in the year 2009-10 on Auxiliary bay, repair and overhauling and replacement of parts of machine unit-II, removal of silt/boulders by weir axis and water conductor and construction of structural steel walkway under sluice gates. An amount of Rs. 755.19 lac is being incurred for further restoration with breakup as under:-

- a) Civil works: - Rs.479.08 lac
- b) Electro-mechanical works: - Rs. 276.11 lac

Major activities are as:-

- (i) Balance works of restoration of water conductor, removal of silt/slush from U/S reservoir, mechanical gates and establishment of discharge control room.
- (ii) Providing of power evacuation system by connecting the Sewa-III 33 KV system to Sewa-II 33 KV bus-bar and subsequent evacuation at 132 KV network.
- (iii) Overhauling of the all the three generating units.
- (iv) System auxiliary works including metering up gradation.

5. Marpachoo

An expenditure of Rs.20.02 lac was incurred in the year 2009-10 on procurement of transformer and construction of road along water conductor. An amount of Rs.117.75 lac is being incurred for its restoration with breakup as under:-

- a) Civil works: - Rs.73.31 lac
- b) Electro-mechanical works: - Rs. 44.44 lac

Major activities are:-

- (i) Diversion/protection work, fixing of gates at head works, silt flushing pipe and spill way chute, temporary crate protection etc.
- (ii) Procurement, installation, testing & commissioning of new battery charger, dewatering pump, meters, OPU motor/ pump sets, VH communication system etc.

6. Haftal

An expenditure of Rs.11.71 lac was incurred in the year 2009-10 incurred on procurement of transformer, VCB panels and repair of spillover channel. An amount of Rs.86.33 lac is being incurred for its restoration with breakup as under:-

- a) Civil works: - Rs.53.55 lac
- b) Electro-mechanical works: - Rs. 32.78 lac

Major activities are:-

- (i) Providing, laying of slit flushing pipe, spill over channel and other auxiliary works and security works.
- (ii) Improvement of battery charger/battery bank, Procurement of temperature gauges for bearing/ OPU for BFV & speed switch, sensors & tooth wheel
- (iii)

C. Force Mejeure**i) Repairing of Breach for Restoration of Wangath Link Canal in Upper Sindh Hydro-Electric Project-**

On 11.9.2009 a breach occurred in Wangath Link Canal of 105MW Upper Sindh Hydro Electric Project-II, Kangan. This damaged the water conductor and spillway channel. Expert advice of Central Water Commission (CWC) was immediately sought about restoration of the damaged Wangath Link and resumption of generation. Resumption of generation through Sumbal Link Canal was pursued for which restoration of spillway was necessary. Huge quantity of mulba / mud had accumulated in the spillway due to sliding of uphill rocks. About 100 m long portion of the spillway had been completely damaged. This required dismantling the existing concrete walls. A circular steel spillway for damaged portion to be mounted / embedded on concrete pedestal with skin reinforcement and necessary anchorage was constructed for restoration of the spillway and the power generation.

1. The restoration of spill channel was completed by end of March 2010 and power generation resumed on 05.04.2010 by using the Sumbal Link of the water conductor.
2. For immediate restoration of Wangath Link, expert advice was sought from the team of Central Water Commission (CWC) which visited the site. They suggested seeking the opinion of Geological survey of India. Geological Survey of India (GSI) after site visits furnished its final report 18.01.2010 . GSI has recommended construction of a 230 meter tunnel and bypassing the vulnerable zone. GSI report was submitted to CWC on 21.01.2010
3. An alternative proposal of Pile base foundation system by driving deep cast in situ piles in grid pattern with mild steel rectangular barrel has also been submitted to CWC for examination and further decision.
4. CWC asked for carrying site investigation to explore the most feasible option. The site investigations for laying of tunnel alignment were started on 30.08.2010. Five no. deep holes are required to be bored. Four no. drilling rigs have been arranged to speedy execution.
5. Consequent upon the finalization of the proposals in consultation with the CWC /GSI the restoration works of Wangath Link shall be taken up.
6. An amount of Rs.432 lac has been incurred on the restoration of the power generation from the project from Sumbal Link. Funds required for the restoration of Wangath Link shall be worked out on finalization of the designs and award of the contracts.

ii) Flood Damages

Karnah in Kupwara district and Leh & Kargil districts were lashed with incessant rains in 2010. The fury of rains was devastating. There were flash floods because of the rains which caused damages to a number of HEPs. The damages have been so extensive that there is requirement of incurring Additional Capital expenditure for restoration of civil works & electro-mechanical equipments for enabling these power houses to run again. Details of these HEPs are given here under:-

1. 2.0 MW (2X1.00 MW) HEP, Karnah:

- 1.1 This project suffered major damages due to devastating flash floods that occurred on 30th July, 2010. The flooded Nallah upstream the power house, breached the defense structures thereby submerging the power house building, inundating tail race pool / channel and damaging the spillway. The electro-mechanical equipment got buried under silt and water. Besides, tailrace and tail pool were filled with muck & boulders. Large scale damages were caused to the protection works, tail race and head works besides the E/M equipment and machinery.
- 1.2 Earlier too, this very power house was severely damaged due to floods in 1992. Again the project had suffered major damages in 2005 earthquake. As the power house has been heavily damaged thrice in a span of nineteen years since its commissioning in 1991. With a view to preventing flooding of the power house due to flash floods in future, it is felt necessary that some permanent structures are constructed for its safety. Even otherwise, the power project is in need for renovation, modernization and up rating (RMU) for which a detailed project report (DPR) is under preparation.
- 1.3 Since undertaking of works for prevention of flooding of power house would involve long time, it was decided to take measures for temporary restoration of the power house on urgent basis. Financial implication for temporary restoration works has been estimated at Rs.116.76 lac for civil works and Rs.171.90 lac for electro-mechanical works (Total Rs.288.66 lac). This restoration work is targeted to be completed by April, 2011. One unit has been put back to operation on 15.01.2011 and the other unit is likely to be back by April 2011 after replacement of the Excitation System by a new static one as the old one cannot be utilized due to damages beyond repair.

2. 3 MW (2X 1.50MW) Igo-Mercellong HEP:-

- 2.1 The Project is located on Leh - Manali highway about 35 km from Leh on the left bank of Indus River and was commissioned in June, 2005. It remains available for power generation for a period of about nine months in a year as during winter the area reels under freezing conditions. The water conductor system gets frozen during winter.
- 2.2 Due to extraordinary heavy rains the power house was put under shut down at about 11.30 PM on 5th August 2010 as a precautionary measure. On that particular night, there was flash flood in Igo nallah pushing the river water towards power canal and damaging the embankment of the water conductor system, RCC panels of power canal, protection works of covered duct, approach road, protection works of switch yard, besides filling the power canal with silt, mulba and boulders. However, Power house building and the machinery/ equipment, were saved from damages.
- 2.3 Temporary restoration has been carried out at a cost of Rs. 36.00 lac and generation from the project resumed w.e.f 8th Sept. 2010. Permanent restoration works with an estimated cost of Rs. 187.00 lac are under execution and these are targeted to be completed by April, 2011. Total cost of restoration works is envisaged as Rs 223.00 lac

3. 0.3 MW (2X150KW) MHP Bazgo:-

- 3.1 The project is located in village Bazgo on Leh - Srinagar National Highway at a distance of about 43 km from Leh. The project was commissioned in December, 1994.
- 3.2 The project was taken up under renovation and modernization (R&M) at an estimated cost of Rs.132 lac by way of improvement in the civil structures and electro mechanical equipment and machinery. Major component of these works were completed in the year 2009-10.
- 3.3 However due to unprecedented floods, the Powerhouse machinery and transformers got buried under mud. Some of the equipments of one of the generating units were washed away in the floods. Head works complex including diversion bund, intake channel de-silting tank, power canal, protection work along the Bazgo Nallah up to head works and power house complex also got badly damaged.
- 3.4 After removing muck from the power house building the machinery was dismantled, cleaned, dried, tested and re-assembled. Temporary restoration has been carried out at a cost of Rs. 14.40 lac and generation from one of the units was restored on 24th Sept 2010. The second unit is likely to be restored by April 2011 for which the missing parts are being procured. Permanent restoration works, estimated to cost Rs 137.00 lac, are under execution and are targeted to be completed by April 2011.

4. 0.4MW (2X200KW) MHP Hunder:-

- 4.1 The project is located in village Hunder in Nubra Valley at a distance of about 130 km from district headquarters. It was commissioned in the year 1995.
 - 4.2 The project has been taken up under RMU at an estimated cost of Rs.177 lac which is under progress. This project runs for about 8-9 months only due to freezing of power canal during winter.
 - 4.3 Due to floods, the head works including diversion bund, intake channel and protection works along intake channel, escape channel and water conductor were damaged. However, power house and the machinery were saved from getting damaged.
 - 4.4 Temporary restoration has been completed at a cost of Rs 1.0 lac by construction of temporary bund for diversion of water into the water conductor. Generation from both the units was resumed from 17-8-2010. Permanent restoration estimated to cost Rs 30.00 lac has been commenced and is envisaged to be completed in by April 2011.
5. Damages were also caused to Iqbal HEP and Sumoor HEP which have been restored by incurring costs of Rs. 2.62 lac and 1.00 lac respectively.

6. Project-wise financial implication is summarized as under:-

S. No.	Name of the Project	Amount Rs. in lac
1	2 x1 MW Karnah	288.66
2	3 X 1.00 MW Igo-Mercellong	223.00
3	2 X 0.150 MW Bazgo	151.40
4	2 X 0.200 MW Hunder	31.00
5	3 X 1.25 MW Iqbal	2.62
6	2 X 0.050 MW Sumoor	1.00
	Total	697.68

Board of Directors has approved the expenditure for restoration of the damages caused due to flood on the above projects. Provision has been kept in the works programme 2010-11 and 2011-12.

9. TAXES AND DUTIES

The above tariff proposal is exclusive of any statutory levies, taxes and duties, Cess or any head of imposition (s) whatsoever imposed / charged by any Govt. Central / State and for any other local bodies / authorities including auxiliary consumption etc.

The amount of such taxes / levies / Cess / duties etc shall be borne by the beneficiary (PDD) additionally.

Incidence of tax liability and other charges as per J&KSERC tariff Notification 2005 shall also be payable by the beneficiary (PDD)

We have paid Income Tax during the year 2009-10 amounting to Rs.7,16, 08,860/- as under:-

Period		Amount paid
Financial year 2007-08	Assessment Year 2008-09	Rs 1,46,16,000/-
Financial year 2008-09	Assessment Year 2009-10	Rs.5,69,92,860/-
Total		Rs. 7,16,08,860/-

As the Income Tax is pass through the amount paid towards Income Tax (Rs.716,08,860/-) may be considered for reimbursement by PDD. The supporting documents are enclosed at Annexure C – 2, Annexure C – 3 and Annexure C – 4.

10. ADDITIONAL SUBMISSIONS

In respect of GTs, the actual O&M expenses incurred by PDC excluding the cost of fuel is requested for reimbursement as only the cost of fuel is being funded by the utility through Govt..

In respect of Mohra, the actual O&M expenses incurred by PDC for operation of the 5MVA 33/11 kV S/Station utilized for the wheeling of the power for PDD is requested as the power house is non-operational at present.

PRAYER

It is respectfully prayed that the Hon'ble Commission may be pleased to:

- (a) Approve the Annual Fixed Charges as mentioned Para 7A, B & C.
- (b) Approve the additional O&M charges in respect of 10 HEP for the year 2009-10 to 2010-11
- (c) Approve the reimbursement of Income Tax for Rs. 716, 08,860/- actually paid to the income tax department as mentioned in Para No.9 above.
- (d) Approve reimbursement of filing fee of Rs.2.00 lacs.
- (e) Pass necessary orders in the light of Additional submission made in Para 10 above.
- (f) Pass such other and further order(s) as are deemed fit and proper in the facts and circumstances of the case.

Authorised Signatory

Place: Jammu

Date:

Annexure-1

Annexure-1**A note on Operation & Maintenance Cost**

The Hon'ble Commission vide their order dated 29th November, 2010 in Para 2.11 on our Review Petition has directed JKSPDC to submit actual O&M expenditure for the last 5 years.

A statement of project-wise expenditure for the last 5 years is given at Schedule – A and the Statement of the administrative & other expenditure of JKPDC as a whole (as per books of accounts) for the last 5 years is given at Schedule – B.

Basis of information

Although the project-wise records were not readily available, however we have compiled total expenses incurred by various offices including Corporate Office, Office the Chief Engineer, Office of the Superintending Engineer, Chief Pay & Accounts Officer etc. and prepared a statement of O&M expenses for each project.

These expenditure includes expenses of direct salary & wages, repairs, maintenance and other such expenses of each project and all the proportionate cost of the respective controlling offices viz. Office of the Chief Engineer, Superintending Engineer, Executive Engineer, CPO and Head Office.

The O& M Expenditure for 8 HEPs for the year 2011 – 12 are considered as allowed by the Hon'ble Commission in its Regulations and for 10 HEPs the O&M Expenditure has been taken as follows:-

- | | |
|--|-----------------|
| a) For the year 2009 – 10 - Actual expenditure - | Rs. 2643.45 Lac |
| b) For the year 2010 – 11 - Escalated @4% - | Rs. 2749.19 Lac |
| c) For the year 2010 – 11 - Escalated @4% - | Rs. 2859.16 Lac |

Additional Submission

- 1) The actual inflation is very high as compared to 4% allowed by JKSERC. CERC and other State Regulators are allowing annual escalation in O&M expenses @ 5.72% from year 2009.

In view of the above it is requested to allow O&M charges with higher annual escalation factor.

Schedule – A

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year 2005 to 2010

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Total O&M Expenditure				
			FY 2005-06	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
1	105	USHP II	651.695	744.424	776.240	795.980	914.725
2	3	Pahalgam	68.289	84.003	72.775	72.377	131.687
3	7.5	Chenani III	58.191	127.810	106.488	120.140	131.514
4	9	Sewa III	72.198	116.133	114.100	126.656	322.804
5	3	Igo Mercellong	5.245	83.891	92.590	129.844	149.244
6	0.75	Marpachoo	0.000	30.708	47.800	40.999	34.365
7	1	Haftal	0.000	33.078	33.733	44.419	38.061
8	1	Bhaderwah	11.993	24.725	15.990	13.905	10.447
Total of 8 HEPs			867.610	1244.773	1259.716	1344.320	1732.847

S. No	Installed capacity (MW)	Name of Project	Total O&M Expenditure				
			FY 2005-06	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
1	22.6	USHP I	259.207	279.823	405.957	438.928	432.024
2	15	Ganderbal	227.062	267.904	281.026	285.853	375.057
3	105	LJHP	785.825	821.648	900.819	991.322	1067.764
4	2	Karnah	136.727	175.605	185.159	196.311	214.994
5	2	Chenani II	23.566	20.169	27.287	39.480	35.070
6	23.3	Chenani I	234.965	274.544	282.896	314.041	290.313
7	3.75	Iqbal	126.613	153.542	177.765	181.785	180.394
8	0.1	Sumoor	5.756	5.966	7.434	6.451	13.890
9	0.4	Hunder	12.345	23.864	22.679	18.605	20.145
10	0.3	Bazgo	12.587	15.523	22.259	13.955	13.800
Total of 10 HEPs			1824.655	2038.587	2313.282	2486.730	2643.451

G. TOTAL OF 8 + 10 HEPs			2692.265	3283.360	3572.998	3831.051	4376.298
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Schedule – A1

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year ended 2005 - 06

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expences	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expences	Grand Total
1	105	USHP II	542.012	96.941	2.484	3.247	0.000	5.797	1.214	651.695
2	3	Pahalgam	65.396	2.466	0.121	0.024	0.000	0.241	0.040	68.289
3	7.5	Chenani III	31.906	25.097	0.324	0.269	0.000	0.509	0.087	58.191
4	9	Sewa III	61.771	9.236	0.320	0.224	0.000	0.591	0.056	72.198
5	3	Igo Mercellong	3.813	0.070	0.478	0.024	0.000	0.428	0.433	5.245
6	0.75	Marpachoo	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	1	Haftal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	1	Bhaderwah	1.330	10.530	0.036	0.025	0.000	0.066	0.006	11.993
Total of 8 HEPs			706.228	144.340	3.762	3.812	0.000	7.632	1.836	867.610

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expences	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expences	Grand Total
9	22.6	USHP I	208.774	45.835	1.148	0.181	0.000	1.916	1.353	259.207
10	15	Ganderbal	198.729	25.111	1.027	0.120	0.000	1.440	0.636	227.062
11	105	LJHP	697.784	74.283	3.140	1.049	0.000	7.035	2.535	785.825
12	2	Karnah	120.780	13.570	0.280	0.017	0.000	0.483	1.598	136.727
13	2	Chenani II	19.679	3.458	0.130	0.075	0.000	0.197	0.026	23.566
14	23.3	Chenani I	212.975	16.647	1.968	0.969	0.285	1.659	0.463	234.965
15	3.75	Iqbal	80.317	43.450	1.040	0.080	0.000	1.255	0.470	126.613
16	0.1	Sumoor	5.313	0.043	0.286	0.002	0.000	0.096	0.015	5.756
17	0.4	Hunder	9.438	2.759	0.064	0.003	0.000	0.051	0.030	12.345
18	0.3	Bazgo	7.913	4.488	0.098	0.002	0.000	0.043	0.043	12.587
Total of 10 HEPs			1561.702	229.643	9.181	2.498	0.285	14.176	7.169	1824.655

G. TOTAL OF 8 + 10 HEPs			2267.930	373.984	12.943	6.311	0.285	21.807	9.005	2692.265
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Schedule – A2

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year ended 2006 - 07

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
1	105	USHP II	646.704	72.892	11.174	5.092	0.000	6.614	1.948	744.424
2	3	Pahalgam	56.376	26.896	0.317	0.065	0.000	0.290	0.059	84.003
3	7.5	Chenani III	94.677	28.542	3.090	0.432	0.092	0.807	0.170	127.810
4	9	Sewa III	97.586	15.181	1.222	0.611	0.110	1.140	0.282	116.133
5	3	Igo Mercellong	60.577	20.129	2.121	0.065	0.000	0.906	0.092	83.891
6	0.75	Marpachoo	23.145	5.980	1.165	0.018	0.000	0.348	0.052	30.708
7	1	Haftal	30.861	0.107	1.553	0.023	0.000	0.464	0.070	33.078
8	1	Bhaderwah	10.470	14.014	0.111	0.033	0.012	0.068	0.018	24.725
Total of 8 HEPs			1020.396	183.742	20.754	6.339	0.214	10.638	2.691	1244.773

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
9	22.6	USHP I	208.258	65.871	2.743	0.527	0.000	2.133	0.291	279.823
10	15	Ganderbal	205.935	57.616	2.000	0.343	0.000	1.791	0.219	267.904
11	105	LJHP	714.569	87.078	9.855	2.472	0.000	6.410	1.264	821.648
12	2	Karnah	165.740	8.582	0.697	0.063	0.000	0.332	0.191	175.605
13	2	Chenani II	18.281	1.429	0.169	0.083	0.024	0.142	0.040	20.169
14	23.3	Chenani I	229.264	40.289	1.513	0.871	0.000	2.300	0.306	274.544
15	3.75	Iqbal	115.727	29.902	5.824	0.088	0.000	1.740	0.261	153.542
16	0.1	Sumoor	5.515	0.043	0.271	0.002	0.000	0.115	0.020	5.966
17	0.4	Hunder	14.061	7.172	2.083	0.009	0.000	0.460	0.079	23.864
18	0.3	Bazgo	8.384	6.644	0.062	0.406	0.000	0.018	0.009	15.523
Total of 10 HEPs			1685.735	304.626	25.216	4.865	0.024	15.441	2.680	2038.587

G. TOTAL OF 8 + 10 HEPs			2706.131	488.368	45.970	11.203	0.239	26.079	5.371	3283.360
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Schedule – A3

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year ended 2007 - 08

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
1	105	USHP II	659.169	77.189	9.768	10.083	8.901	8.660	2.469	776.240
2	3	Pahalgam	50.265	20.108	0.740	0.285	0.020	0.317	1.040	72.775
3	7.5	Chenani III	86.440	17.061	0.741	1.000	0.080	0.917	0.250	106.488
4	9	Sewa III	104.729	5.751	0.854	1.247	0.096	1.099	0.324	114.100
5	3	Igo Mercellong	69.826	8.129	10.542	2.163	0.000	1.700	0.229	92.590
6	0.75	Marpachoo	23.357	8.740	14.858	0.330	0.000	0.467	0.049	47.800
7	1	Haftal	29.142	0.653	2.811	0.440	0.000	0.622	0.065	33.733
8	1	Bhaderwah	11.133	4.470	0.092	0.132	0.011	0.120	0.032	15.990
Total of 8 HEPs			1034.062	142.101	40.407	15.681	9.107	13.901	4.458	1259.716

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
9	22.6	USHP I	326.536	64.166	3.229	4.754	2.943	3.471	0.857	405.957
10	15	Ganderbal	243.256	31.064	1.911	1.456	1.299	1.527	0.513	281.026
11	105	LJHP	784.920	79.850	8.371	10.119	6.473	8.185	2.900	900.819
12	2	Karnah	171.134	11.953	0.746	0.190	0.509	0.528	0.099	185.159
13	2	Chenani II	24.729	1.789	0.166	0.267	0.021	0.254	0.061	27.287
14	23.3	Chenani I	258.097	15.843	1.935	3.107	0.247	2.958	0.708	282.896
15	3.75	Iqbal	116.785	20.464	36.290	1.649	0.000	2.333	0.245	177.765
16	0.1	Sumoor	2.675	1.271	3.351	0.072	0.000	0.057	0.008	7.434
17	0.4	Hunder	10.644	1.084	10.406	0.288	0.000	0.227	0.031	22.679
18	0.3	Bazgo	7.983	3.813	10.054	0.216	0.000	0.170	0.023	22.259
Total of 10 HEPs			1946.760	231.296	76.459	22.120	11.494	19.710	5.443	2313.282

TOTAL OF 8 + 10 HEPs			2980.822	373.397	116.866	37.801	20.600	33.611	9.901	3572.998
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Schedule – A4

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year ended 2008 - 09

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
1	105	USHP II	672.103	85.736	9.077	9.242	10.416	7.708	1.698	795.980
2	3	Pahalgam	44.333	26.741	0.602	0.264	0.000	0.382	0.055	72.377
3	7.5	Chenani III	84.854	32.278	0.763	1.011	0.000	1.009	0.226	120.140
4	9	Sewa III	105.246	17.781	0.990	1.131	0.000	1.191	0.318	126.656
5	3	Igo Mercellong	79.959	47.183	1.472	0.396	0.000	0.647	0.188	129.844
6	0.75	Marpachoo	24.603	15.337	0.767	0.084	0.000	0.157	0.051	40.999
7	1	Haftal	32.804	10.202	1.022	0.112	0.000	0.210	0.068	44.419
8	1	Bhaderwah	10.999	2.499	0.120	0.126	0.000	0.132	0.029	13.905
Total of 8 HEPs			1054.901	237.758	14.812	12.365	10.416	11.437	2.631	1344.320

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
9	22.6	USHP I	366.575	48.985	3.434	16.548	0.000	2.808	0.579	438.928
10	15	Ganderbal	259.870	22.297	0.944	1.355	0.000	1.132	0.256	285.853
11	105	LJHP	872.776	91.632	7.044	9.642	0.000	8.415	1.813	991.322
12	2	Karnah	176.112	18.845	0.665	0.186	0.000	0.404	0.098	196.311
13	2	Chenani II	27.275	11.542	0.136	0.270	0.000	0.212	0.046	39.480
14	23.3	Chenani I	285.751	20.567	1.582	3.140	0.000	2.464	0.537	314.041
15	3.75	Iqbal	123.016	53.474	3.833	0.421	0.000	0.786	0.255	181.785
16	0.1	Sumoor	2.665	3.695	0.049	0.013	0.000	0.022	0.006	6.451
17	0.4	Hunder	10.661	7.584	0.196	0.053	0.000	0.086	0.025	18.605
18	0.3	Bazgo	7.996	5.688	0.147	0.040	0.000	0.065	0.019	13.955
Total of 10 HEPs			2132.697	284.308	18.031	31.667	0.000	16.394	3.633	2486.730

TOTAL OF 8 + 10 HEPs			3187.599	522.067	32.843	44.032	10.416	27.830	6.264	3831.051
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Schedule – A5

Consolidated O&M Expenses for project and Appropriation of Corporate Expenses for the year ended 2009 - 10

Rs. In Lac

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
1	105	USHP II	694.061	170.167	12.424	8.270	0.387	6.728	22.689	914.725
2	3	Pahalgam	82.844	0.136	47.673	0.144	0.011	0.134	0.745	131.687
3	7.5	Chenani III	98.174	27.246	1.219	1.022	0.000	1.005	2.848	131.514
4	9	Sewa III	306.314	0.453	10.462	0.794	0.000	2.037	2.744	322.804
5	3	Igo Mercellong	59.108	80.184	1.759	0.663	0.000	6.672	0.858	149.244
6	0.75	Marpachoo	33.854	0.032	0.181	0.026	0.000	0.101	0.172	34.365
7	1	Haftal	21.759	15.663	0.241	0.034	0.000	0.134	0.229	38.061
8	1	Bhaderwah	9.825	0.050	0.138	0.063	0.000	0.123	0.247	10.447
Total of 8 HEPs			1305.938	293.931	74.097	11.016	0.398	16.934	30.532	1732.847

S. No	Installed capacity (MW)	Name of Project	Salary A/c	Repair & Maintenance	Office Expenses	Legal, Rates & Taxes	Electricity Charges	Travelling & POL	Misc. Expenses	Grand Total
9	22.6	USHP I	310.488	67.630	2.190	0.862	44.053	1.841	4.959	432.024
10	15	Ganderbal	328.773	40.085	1.336	0.714	0.055	0.864	3.229	375.057
11	105	LJHP	985.358	37.340	11.011	4.352	0.387	6.832	22.483	1067.764
12	2	Karnah	199.317	13.975	0.384	0.369	0.007	0.490	0.451	214.994
13	2	Chenani II	26.180	7.266	0.325	0.273	0.000	0.268	0.760	35.070
14	23.3	Chenani I	278.105	0.999	2.445	1.281	0.000	2.180	5.304	290.313
15	3.75	Iqbal	110.404	56.133	8.310	0.449	0.000	3.841	1.256	180.394
16	0.1	Sumoor	12.738	1.077	0.028	0.003	0.000	0.020	0.024	13.890
17	0.4	Hunder	16.810	3.032	0.110	0.014	0.000	0.081	0.097	20.145
18	0.3	Bazgo	12.563	1.011	0.083	0.010	0.000	0.061	0.073	13.800
Total of 10 HEPs			2280.737	228.548	26.222	8.327	44.503	16.478	38.636	2643.451

TOTAL OF 8 + 10 HEPs			3586.676	522.479	100.319	19.343	44.901	33.412	69.168	4376.298
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Schedule – B

Administrative & Other Expenses for the Corporation as per books of accounts

	Rs. In Crore				
Financial Year	2005-06	2006-07	2007-08	2008-09	2009-10
Total Amount	59.69	63.28	59.60	58.10	70.30

Annexure-2

(Revised)

Annexure – 2

Calculation for Depreciation of 18 Hydro Electric Projects

Bhaderwah

Calculation for Depreciation

							Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation	
Non - Depreciable Asset							
Land	15	-	15		0	-	
Depreciable Assets							
Civil Works	434	101	535	50	1.80%	9.63	
Building	56	13	69	50	1.80%	1.23	
Power Plant & Switchgears							
Power Plant 75%	214	50	264	35	2.57%	6.79	
Switchgears 25%	71	17	88	25	3.60%	3.17	
	286						
Communication	73	17	90	15	6%	5.38	
Total	847	198	1,060			26.21	

Annual Total Depreciation 26.21**Common Cost**

Preliminary	11.90
Plantation	0.20
Miscellaneous	18.85
Maintenance	26.46
Special T&P	18.45
Establishment	56.486
T&P Ordinary	3.00
IDC	62.830
Total	198.18

Chenani - III

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	145	-	145		0	-
Depreciable Assets						
Civil Works	3,447	514	3,961	50	1.80%	71.30
Building	100	15	115	50	1.80%	2.07
Power Plant & Switchgears						
Power Plant 75%	807	120	927	35	2.57%	23.82
Switchgears 25%	269	40	309	25	3.60%	11.12
	1,075					
Communication	35	5	40	15	6%	2.41
Total	4657	694	5,497			110.72

Annual Total Depreciation 110.72

Common Cost

Preliminary	30
Plantation	2
Miscellaneous	45
Maintenance	10
Special T&P	12
Establishment	481.77
T&P Ordinary	16.15
IDC	97.57
Total	694

Haftal

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	5	-	5		0	-
Depreciable Assets						
Civil Works	885	224	1,108	50	1.80%	19.95
Building	79	20	99	50	1.80%	1.78
Power Plant & Switchgears						
Power Plant 75%	229	58	287	35	2.57%	7.36
Switchgears 25%	76	19	96	25	3.60%	3.44
	305					
Communication	15	4	19	15	6%	1.14
Total	1284	324	1,613			33.68

Annual Total Depreciation 33.68

Common Cost

Preliminary	12
Plantation	0
Miscellaneous	37
Maintenance	11
Special T&P	8.87
Establishment	140.5
T&P Ordinary	11
IDC	103.94
Total	324

IGO – Merchellong

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost AppORTioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	8	-	8		0	-
Depreciable Assets						
Civil Works	2,969	367	3,336	50	1.80%	60.04
Building	122	15	137	50	1.80%	2.47
Power Plant & Switchgears						
Power Plant 75%	941	116	1,057	35	2.57%	27.16
Switchgears 25%	314	39	352	25	3.60%	12.68
	1,254					
Communication	47	6	53	15	6%	3.17
Total	4392	543	4,942			105.52
Annual Total Depreciation						105.52

Common Cost

Preliminary	43
Plantation	2
Miscellaneous	29
Maintenance	40
Special T&P	62.985
Establishment	13.887
T&P Ordinary	3
IDC	350.72
Total	543

Marpochoo

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	12	-	12		0	-
Depreciable Assets						
Civil Works	569	145	714	50	1.80%	12.85
Building	37	10	47	50	1.80%	0.85
Power Plant & Switchgears						
Power Plant 75%	288	73	361	35	2.57%	9.29
Switchgears 25%	96	24	120	25	3.60%	4.34
	384					
Communication	24	6	29	15	6%	1.77
Total	1014	258	1,285			29.09

Annual Total Depreciation 29.09

Common Cost

Preliminary	11
Plantation	1
Miscellaneous	38
Maintenance	14
Special T&P	20
Establishment	76.96
T&P Ordinary	6
IDC	91.89
Total	258

Pehalgam

Calculation for Depreciation

							Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation	
Non - Depreciable Asset							
Land	58	-	58		0	-	
Depreciable Assets							
Civil Works	2,818	783	3,601	50	1.80%	64.81	
Building	81	22	103	50	1.80%	1.86	
Power Plant & Switchgears							
Power Plant 75%	665	185	850	35	2.57%	21.85	
Switchgears 25%	222	62	283	25	3.60%	10.20	
	887						
Communication	489	136	624	15	6%	37.47	
Total	4,274	1,188	5,520			136.19	

Annual Total Depreciation 136.19

Common Cost

Preliminary	31
Plantation	77
Miscellaneous	83
Maintenance	32
Special T&P	15
Establishment	590
T&P Ordinary	4.123
IDC	355.3
Total	1,188

Sewa - III

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	70	-	70		0	-
Depreciable Assets						
Civil Works	3,966	393	4,359	50	1.80%	78.46
Building	208	21	229	50	1.80%	4.11
Power Plant & Switchgears						
Power Plant 75%	1,338	133	1,471	35	2.57%	37.79
Switchgears 25%	446	44	490	25	3.60%	17.65
	1,784					
Communication	60	6	66	15	6%	3.96
Total	6,018	596	6,684.16			141.97

Annual Total Depreciation 141.97

Common Cost

Preliminary	60
Plantation	2
Miscellaneous	35
Maintenance	5
Special T&P	15
Establishment	348.36
T&P Ordinary	1.00
Audit & Accounts	129.80
Total	596

USHP -II

Calculation for Depreciation

						Rs. In Lac
Class of Asset	Completion Cost	Common Cost Apportioned	Total Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Non - Depreciable Asset						
Land	750	-	750		0	-
Depreciable Assets						
Civil Works	25,617	3,117	28,734	50	1.80%	517.21
Building	440	54	494	50	1.80%	8.88
Power Plant & Switchgears						
Power Plant 75%	8,627	1,050	9,676	35	2.57%	248.68
Switchgears 25%	2,876	372	3,225	25	3.60%	116.11
	11,502					
Communication	553	67	620	15	6%	37.22
Total	38,112	4,637	43,499			928.10

Annual Total Depreciation 928.10

Common Cost

Preliminary	180
Plantation	50
Miscellaneous	166
Maintenance	395
Special T&P	99.5
Establishment	3073.35
T&P Ordinary	248
IDC	425.25
Total	4,637

Karnah

Calculation for Depreciation

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works including Building	776	50	1.80%	13.98
Electrical & Mechanical	514	35	2.57%	13.21
Switchyard	64	25	3.60%	2.31
Total	1355			29.49

Annual Total Depreciation 29.49

Iqbal Bridge

Calculation for Depreciation

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	1,206	50	1.80%	21.71
Power Plant & Transmission	1,136	35	2.57%	29.18
Switchyard	122	25	3.60%	4.39
Total	2463			55.28

Annual Total Depreciation 55.28

Bazgo**Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	113	50	1.80%	2.03
Power Plant & Transmission	91	35	2.57%	2.35
Switchyard	12	25	3.60%	0.42
Total	216			4.80

Annual Total Depreciation 4.80**Sumoor****Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	37	50	1.80%	0.66
Power Plant & Transmission	29	35	2.57%	0.75
Switchyard	4	25	3.60%	0.14
Total	70			1.55

Annual Total Depreciation 1.55

Chenani - II**Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	731	50	1.80%	13.15
Power Plant & Transmission	442	35	2.57%	11.37
Switchyard		25	3.60%	-
Total	1173			24.52

Annual Total Depreciation 24.52**Chenani - I****Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	6,403	50	1.80%	115.25
Power Plant & Transmission	1,338	35	2.57%	34.39
Switchyard	108	25	3.60%	3.90
Total	7849			153.54

Annual Total Depreciation 153.54

Hunder**Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	151	50	1.80%	2.71
Power Plant & Transmission	121	35	2.57%	3.12
Switchyard	14	25	3.60%	0.51
Total	286			6.34

Annual Total Depreciation 6.34**USHP-I****Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	2,248	50	1.80%	40.47
Power Plant & Transmission	2,296	35	2.57%	59.00
Switchyard	82	25	3.60%	2.95
Total	4626			102.43

Annual Total Depreciation 102.43

Lower Jhelum**Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	20,620	50	1.80%	371.17
Power Plant & Transmission	20,568	35	2.57%	528.60
Switchyard	936	25	3.60%	33.70
Total	42125			933.47

Annual Total Depreciation 933.47**Ganderbal****Calculation for Depreciation**

Rs. In Lac

Class of Asset	Completion Cost	Life (Years)	Depreciation Rate	Annual Depreciation
Depreciable Assets				
Civil Works	1,141	50	1.80%	20.53
Power Plant & Transmission	426	35	2.57%	10.95
Switchyard	28	25	3.60%	1.01
Total	1595			32.49

Annual Total Depreciation 32.49

Annexure-3

Annexure- 3

Calculation of interest on loan for tariff purposes

The practice being followed by CERC and State Regulatory Commissions in calculation of Interest on Loan while determining the tariff is as under:-

Amount of loan outstanding at the beginning of a financial year i.e. on 01-04 --- & closing balance of the same at the end of the very financial year are considered and average of the two is worked out. This average loan for the year multiplied with weighted average rate of interest gives the amount of IOL and the same is considered for tariff purpose. To make things more clear an example is given as under for the year 2009-10:-

Opening loan as on 1.4.2009 - Rs. 100 crore

Closing loan as on 31.3.2010 - Rs. 93 crore

Average loan for the year 2009-10 $\frac{100+93}{2}$ = Rs. 96.5 crore

If interest rate is 10%, then IOL for 2009-10 = $96.5 \times \frac{10}{100}$ = Rs. 9.65 crore

The above method is simple than working out interest on quarterly / half yearly or on actual date of payment of loan basis.

In our tariff petition we have adopted the practice which is being followed by CERC and other State Regulators.

However, in the Tariff Order the interest amount has been reduced in case of 8 HEPs. It appears that the Hon'ble Commission has calculated the interest based on quarterly payment and that too on the closing balance. If at all the interest is to be considered on quarterly basis then it should be on the opening balance and not on closing balance of loan.

We are giving calculations for USHP-II for the year 2009 – 10 in the attached sheet. It would be observed that the interest for the year under consideration works out as under:-

- (i) Rs.11.59 million in case of quarterly payment – by calculating interest on opening balance.
- (ii) Rs.10.45 million in case of quarterly payment – by calculating interest on closing balance (as taken by Commission)

It is worth to mention here that amount of interest as Rs.11.04 million, average of (i) & (ii) above, is in line with the methodology of CERC.

We hope Commission will reconsider the methodology for the year 2011-12 & request to accept the methodology as given above which is simple and being followed by other State Electric Regulatory Commissions for determination of tariffs.

Attachment to Annexure – 3

Sample Calculation for USHP – II

Rs in million

Opening Loan Balance 01.04.2009	913.48
Annual Repayment of Loan	304.49
Quarterly Loan Repayment	76.12
Annual Rate of Interest	14.50%

A On Quarterly Basis

Period	Q 1	Q 2	Q 3	Q 4	Annual	Remarks
Opening Loan 1 4 2009	913.48	837.36	761.24	685.12		
Quarterly Loan Repayment	76.12	76.12	76.12	76.12	304.49	
Balance	837.36	761.24	685.12	608.99	Closing as on 31 3 2010	
Annual Rate of Interest	14.50%					
Interest on opening balance	33.11	30.35	27.59	24.84	115.90	
Interest on Closing Balance	30.35	27.59	24.84	22.08	104.86	

B On Annual Basis – As calculated by JKPDC

Period	Annual	Remarks
Opening Balance of Loan	913.48	as on 31 03 2009
Annual Repayment of Loan	304.49	
Closing Balance of Loan	608.99	as on 31 03 2010
Average Loan during the year	761.24	
Annual Rate of Interest	14.50%	
Annual Interest payable	110.38	

PART-B (Rev)
FORMATS
FOR
ANNUAL REVENUE REQUIREMENT (ARR)
&
TARIFF PETITION
FOR
FY 2011-12

PART-C
FOR
ANNUAL REVENUE REQUIREMENT (ARR)
&
TARIFF PETITION
FOR
FY 2011-12

Annexure-B1

Annexure-B2