

**Jammu & Kashmir
State Electricity Regulatory Commission**



**Order
on
Determination of Annual Fixed Charges
and
Tariff for FY 2015-16
of
J&K State Power Development Corporation Limited**

Jammu & Kashmir State Electricity Regulatory Commission

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Before

Jammu & Kashmir State Electricity Regulatory Commission

Petition Number: JKSERC/46 of 2014

In the Matter of:

Application for determination of Annual Fixed Charges and Tariff Petition of Hydro Electric Stations, Gas Turbine and Transmission Line of Jammu & Kashmir State Power Development Corporation Limited (JKSPDC) for the Financial Year 2015-16 in terms of Regulation 45 of JKSERC (Conduct of Business) Regulations, JKSERC (Terms & Conditions for Determination of Hydro Generation Tariff) Regulations, 2011 and JKSERC (Terms & Conditions for Determination of Transmission Tariff) Regulations, 2012.

In the Matter of:

Jammu & Kashmir State Power Development Corporation Limited (JKSPDC),
Hotel Shaw Inn Boulevard, Srinagar / Ashok Nagar, Satwari, Jammu

Order No: 10-JKSERC of 2015

(Passed on this 27th Day of February, 2015)

1. This Order relates to Annual Fixed Charges (AFC) and Tariff Petition filed by the Jammu & Kashmir State Power Development Corporation Limited (hereinafter referred to as JKSPDC or the Petitioner) before the Jammu & Kashmir State Electricity Regulatory Commission (hereinafter referred to as JKSERC or the Commission) for approval of AFC and Tariff for 21 Hydro Generating Stations, 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at 400 kV Kishenpur sub-station of PGCIL (Baglihar-Transmission System) for FY 2015-16 . The Petition also includes submissions made by the Petitioner for approval of reimbursement of actual expenses incurred on operation and maintenance of Gas based Thermal Stations. The Petition has been filed by the Petitioner for the Hydro Stations as per the JKSERC (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2011 (hereinafter referred to as the JKSERC Hydro Generation Tariff Regulations, 2011) and for the Transmission Line as per JKSERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2012 (hereinafter referred to as the JKSERC Transmission Tariff Regulations, 2012).

2. The Commission in its order dated 21st February, 2014 had approved the Annual Revenue Requirement (ARR) which is based on the annual fixed charges (AFC) and determined generation tariffs for FY 2014-15 for 21 Hydro Generating Stations, 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at Kishenpur.
3. The Petitioner filed the Tariff Petition No. JKSERC/46/2014 before the Commission on 25th November 2014 for determination of AFC and Tariff for the FY 2015-16 in respect of 21 HEPs and Baglihar Transmission System and approval of reimbursement of actual expenses incurred towards operation and maintenance of gas based generating stations.
4. The Commission on preliminary review of the Tariff Petition for FY 2015-16 directed the Petitioner to submit further information/ clarifications on several issues vide its Letter No. JKSERC/Secy/1273/17 dated 03 December 2014. The Petitioner submitted additional data and clarifications vide Letter No. JKSPDC/P-241(IV)/T-1095/2954 dated 15 December 2014.
5. The Commission held a technical validation session with the Petitioner on 6th January 2015 and took into consideration the supplementary information provided by the Petitioner during the technical validation session and admitted the petition on the same day.
6. The Commission vide Letter No. JKSERC/Secy/1453 dated 6th January 2015 directed the Petitioner to publish gist of its petition and tariff proposal as Public Notice in leading newspapers in the State having wide circulation and invite comments/ objections/ suggestions from the Stakeholders including consumers on the Tariff Petition filed. The summary of the petition and tariff proposal was accordingly published by the Petitioner in 8 leading newspapers in the State on 9th & 10th of January 2015 and the Stakeholders were requested to submit their comments/ suggestions/ objections by or before 30th January 2015.

Gist of the petition

7. The Petitioner filed the petition seeking approval of annual revenue requirement and tariff for FY 2015-16 in respect of:
 - (a) Eight (8) Hydro Electric Projects, namely USHP II, Chenani III, Sewa III, Pahalgam, Igo – Marcellong, Bhaderwah, Marpachoo & Haftal.
 - (b) Ten (10) old Hydro Electric Projects, namely USHP I, Lower Jhelum, Ganderbal, Chenani I, Karnah, Iqbal Bridge, Bazgo, Sumoor, Hunder & Chenani II.
 - (c) Baglihar Hydro Electric Project Stage I which includes Baglihar Hydro Electric Project [Baglihar-Hydro] and a 68 km long 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at 400 kV Kishenpur sub-station of PGCIL [Baglihar-Transmission System].

- (d) 1.26 MW Sanjak HEP which has been made commercially operational on 3rd of July 2013.
- (e) 4 MW Stakna HEP transferred to JKSPDC from Jammu & Kashmir Power Development Department (JKPDD) in March 2011.
- (f) Gas based thermal power station I and II situated at Pampore (for reimbursement of operation and maintenance charges by JKPDD).
8. The petitioner has discussed Tariff and AFC proposal for FY 2015-16 in Chapter 7 of its Tariff petition. This chapter is further structured into different sub-sections to cover submissions regarding Tariff, AFC & other proposals in respect of 8 HEPs, 10 old HEPs, Baglihar HEP, Sanjak HEP, Stakna HEP, Gas Turbines I & II, etc.
9. The Petitioner has submitted the Annual Fixed charges (AFC) and Indicative Tariff of all the HEPs in accordance with the JKSERC Hydro Generation Tariff Regulations, 2011. While the AFC and Indicative Tariff for Baglihar - Transmission System has been submitted in accordance with the JKSERC (Terms and Conditions of Transmission Tariff) Regulations, 2012.
10. The proposed AFC and indicative tariff submitted by Petitioner for approval of the 8 HEPs have been summarized in the table below.

Table 1: JKSPDC Proposed AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for 8 HEPs for FY 2015-16

Component-wise AFC & Tariff submitted by Petitioner for FY 2015-16												
Name of HEP	App. Tariff for FY 2014-15 (Rs/kWh)	Interest on Loan (Rs Cr)	Depn (Rs Cr)	AAD (Rs Cr)	Return on Equity (Rs Cr)	O&M Expenses (Rs Cr)	Interest on Working Capital (Rs Cr)	Cons. Charges (Rs Cr)	Less: NTI (Rs Cr)	Total AFC (Rs Cr)	Design Energy (In MU)	Indicative Tariff (Rs/kWh)
USHP-II	0.85	0.00	11.50	0.00	18.27	10.63	2.41	0.24	4.13	38.92	447.37	0.88
Chenani-III	1.41	0.00	1.41	0.00	2.31	1.49	0.30	0.02	0.30	5.23	36.71	1.44
Sewa-III	1.99	0.00	1.76	0.00	2.81	2.06	0.37	0.02	0.35	6.66	33.06	2.04
Bhaderwah	1.20	0.00	0.30	0.00	0.34	0.21	0.05	0.00	0.06	0.85	9.44	0.91
Pahalagam	4.67	0.29	1.76	0.14	2.35	1.17	0.28	0.01	0.18	5.82	17.30	3.40
Haftal	4.32	0.06	0.42	0.55	0.58	0.34	0.09	0.00	0.04	2.01	4.88	4.16
Marpachoo	4.46	0.05	0.35	0.43	0.47	0.27	0.07	0.00	0.03	1.61	3.79	4.30
Igo-Mercellong	4.29	0.00	1.31	0.00	1.95	1.26	0.24	0.01	0.12	4.65	15.88	2.96

11. The proposed AFC and indicative tariff submitted for approval of 10 old HEPs have been summarized in the following table:

Table 2: JKSPDC Proposed AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for 10 old HEPs for FY 2015-16

Component-wise AFC & Tariff submitted by Petitioner for FY 2015-16												
Name of HEP	App. Tariff for FY 2013-14 (Rs/kWh)	Interest on Loan (Rs Cr)	Depn (Rs Cr)	AAD (Rs Cr)	Return on Equity (Rs Cr)	O&M Expenses (Rs Cr)	Interest on Working Capital (Rs Cr)	Cons. Charges (Rs Cr)	Less: NTI (Rs Cr)	Total AFC	Design Energy (In MU)	Indicative Tariff (Rs/kWh)
Karnah	2.99	0.00	0.35	0.00	0.57	2.49	0.15	0.00	0.08	3.49	11.36	3.11
USHP-I	0.63	0.00	1.20	0.00	1.94	4.97	0.59	0.05	0.89	7.86	106.62	0.74
Lower Jhelum	0.54	0.00	10.92	0.00	17.69	12.50	2.98	0.24	4.13	40.20	609.43	0.67
Ganderbal	0.45	0.00	0.41	0.00	0.67	3.93	0.36	0.03	0.59	4.82	90.15	0.54
Iqbal Bridge	1.82	0.00	0.65	0.00	1.03	2.24	0.20	0.01	0.15	3.98	21.23	1.89
Bazgo	3.28	0.00	0.06	0.00	0.09	0.21	0.02	0.00	0.01	0.37	1.09	3.40
Sumoor	3.43	0.00	0.02	0.00	0.03	0.11	0.01	0.00	0.00	0.16	0.45	3.58
Hunder	2.58	0.00	0.07	0.00	0.12	0.27	0.02	0.00	0.02	0.47	1.77	2.68
Chenani-II	0.96	0.00	0.30	0.00	0.49	0.40	0.08	0.00	0.08	1.19	12.00	1.00
Chenani-I	0.74	0.00	2.03	0.00	3.30	3.82	0.67	0.05	0.92	8.96	110.02	0.82

12. The proposed AFC and indicative tariff in respect of Baglihar hydro and Baglihar transmission system for FY 2015-16 have been summarized in the following table:

Table 3: JKSPDC Proposed AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for Baglihar Hydro and Baglihar Transmission System for FY 2015-16:

Description	Baglihar Hydro Project	Baglihar Transmission System
O&M Expenses	103.84	1.90
Interest on Loan	139.32	4.07
Depreciation	324.53	10.09
Advance Against Depreciation (AAD)		
Return on Equity	227.08	7.81
Interest on Working Capital	29.70	0.90
Consultancy Charges	0.98	0.03
Less: NTI	17.18	0.53
Total Annual Fixed Cost	808.27	24.27
Design Energy (In MU)	2536.07	2536.07
Indicative Tariff for FY 2015-16 (Rs/kWh)	3.235	0.097
Approved Tariff for FY 2014-15 (Rs/kWh)	2.83	0.08

13. The Petitioner has submitted the AFC for Stakna HEP based on the capital cost and design energy approved in the Tariff Order for FY 2014-15. The AFC and indicative tariff submitted for approval are given in the following table:

Table 4: JKSPDC Proposed AFC(Rs Cr) and Indicative Tariff (Rs/kWh) for Stakna HEP for FY 2015-16

Description	Amount
O&M Expenses	0.21
Interest on Loan	0.00
Depreciation	0.21
Advance Against Depreciation (AAD)	0.00
Return on Equity	0.53
Interest on Working Capital	0.05
Consultancy Charges	0.01
Less: NTI	0.16
Total Annual Fixed Cost	0.85
Design Energy (In MU)	19.52
Indicative Tariff (Rs/ kWh)	0.44
Approved Tariff for FY 2014-15 (Rs/kWh)	0.42

14. The Petitioner has submitted the AFC for Sanjak HEP. The capital cost for Sanjak HEP has been determined on the basis of expenditure incurred and valuation report. The design energy has been considered on the basis of validation report using the methodology approved by the Commission. The proposed AFC and indicative tariff in respect of Sanjak HEP are given in the table below.

Table 5: JKSPDC Proposed AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for Sanjak HEP (Rs Cr) for FY 2015-16

Description	Amount
O&M Expenses	0.44
Interest on Loan	0.11
Depreciation	0.91
Advance Against Depreciation (AAD)	0.74
Return on Equity	0.65
Interest on Working Capital	0.12
Less: NTI	0.05
Total Annual Fixed Cost	2.81
Design Energy (In MU)	4.46
Indicative Tariff (Rs per kWh)	6.36
Approved Tariff for FY 2014-15 (Rs/kWh)	4.10

Actual Generation

15. The Commission has analyzed details of actual generation of various hydro generating stations submitted by the Petitioner. The Commission observes that the actual generation of these generating stations (with the exception of Baglihar hydro station) is low as compared to the design energy or the actual generating capacity of the stations. The actual total generation as submitted by the Petitioner for previous years is summarized in following table.

Table 6: Actual Generation as submitted by Petitioner in previous years (MU)

Description	Generation
2005-06	868.32
2006-07	952.75
2007-08	853.51
2008-09	1697.89
2009-10	3448.84
2010-11	3721.84
2011-12	3863.97
2012-13	3931.66
2013-14	3738.66
2014-15 (up to October, 2014)	2978.11

Meeting of the State Advisory Committee

16. The Commission convened a meeting with the members of the State Advisory Committee (SAC) in Jammu on 4th February, 2015 for discussing the AFC and Tariff Petition filed by the Petitioner for determination of tariff of the 21 Hydro Generation Stations and Baglihar Transmission System for FY 2015-16.
17. The State Advisory Committee discussed the AFC and Tariff Petition submitted by JKSPDC in detail. Representatives from JKSPDC highlighted the main components of the AFC & Tariff Petition and major items of expenditure and revenue. The members of the SAC provided several valuable suggestions which have been considered, summarized and mentioned at appropriate places in this Tariff Order by the Commission.

Public Hearings

18. The Commission initiated public consultation process to understand the views of the stakeholders on the various aspects of the AFC and Tariff Petition filed by the Petitioner. Accordingly, public hearings on AFC & Tariff Petition were held at Jammu and Srinagar as per the details given below:

Table 7: Details of Public Hearings

Place/ city	Date	Location
Jammu	February 07, 2015	Conference Hall, JKSERC
Srinagar	February 10, 2015	Conference Hall, IMPA

19. The Commission also invited some prominent persons and consumer bodies to take part in the process of tariff determination and represent the interests of consumers. The comments/ objections/ suggestions received during the hearings have been duly considered while finalizing this Order.

20. A summary of the issues raised by the objectors during the course of this process of tariff determination has been provided in Chapter 3 of this Tariff Order on public consultation process, along with the Petitioner's response and the Commission's views on the same.

Additional Capitalization

21. The Petitioner has proposed additional capitalization for Bhaderwah HEP, Pahalgam HEP and Baglihar HEP. The same has been discussed in detail in subsequent chapters in this Order.

Approved Annual Fixed Charges and Tariff for FY 2015-16

22. The Commission considered the submissions made by the Petitioner in the petition for approval of AFC and Tariff for FY 2015-16 in respect of the 21 HEPs and Baglihar Transmission System operated by the utility. The determination and approval of AFC and indicative tariff for the 21 HEPs and Baglihar Transmission System has been explained in the ensuing chapters of this Tariff Order.

23. The Commission has approved the AFC and indicative tariffs for the 21 HEPs and Baglihar Transmission system as follows:

(a) 20 HEPs (excluding Sanjak) in accordance with the JKSERC Hydro Tariff Regulation, 2011.

(b) Baglihar Hydro has been approved on the basis of the provisionally approved capital cost and in accordance with the provisions of JKSERC Hydro Generation Regulations, 2011.

(c) Baglihar Transmission System for FY 2015-16 have been approved on the basis of the provisionally approved capital cost and in accordance with the provisions of the JKSERC Transmission Regulations, 2012.

(d) Sanjak HEP has been approved on the basis of capital cost determined in accordance with the JKSERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2013

24. The determination and approval of AFC and Tariff has been taken up separately for 8 HEPs, 10 HEPs, Baglihar HEP (Stage I) and Baglihar Transmission, Stakna HEP and Sanjak HEP and they have been discussed separately in different chapters in this Tariff Order. This has been done because the components of Annual Fixed Cost (AFC) in respect of 8 HEPs, 10 old HEPs and Baglihar HEP (Stage I) and Baglihar Transmission has been computed separately in the Petition. The Commission had also dealt the issue like-wise in its previous Generation Tariff Orders.

25. The Commission's detailed analysis regarding components of tariff, approval of tariff and AFC in respect of 8 HEPs, 10 old HEPs, Baglihar HEP, Stakna HEP and Sanjak HEP has been given separately in the relevant chapters of this Tariff Order. The same has been summarized in the following paras:

26. The approved AFC and tariff for FY 2015-16 for 8 HEPs calculated at net saleable energy is summarized in following table:

Table 8: Approved AFC (Rs Cr) and Tariff (Rs/kWh) for 8 HEPs for FY 2015-16

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int. on WC	Cons. Charge	Less: NTI	Total AFC (Rs Cr)	Net Saleable Energy (In MU)	Indicative Tariff (Rs per kWh)
USHP-II	10.63	-	11.50	-	18.27	2.34	0.21	4.12	38.83	442.02	0.88
Chenani-III	1.49	-	1.41	-	2.31	0.30	0.01	0.29	5.23	36.34	1.44
Sewa-III	2.06	-	1.76	-	2.81	0.37	0.02	0.35	6.67	32.73	2.04
Bhaderwah	0.21	-	0.30	-	0.34	0.05	0.00	0.08	0.82	9.35	0.88
Pahalagam	1.17	0.29	1.76	-	2.35	0.28	0.01	0.24	5.62	17.13	3.28
Haftal	0.34	0.03	0.42	0.55	0.58	0.09	0.00	0.04	1.97	4.83	4.08
Marpachoo	0.27	0.03	0.35	0.43	0.47	0.07	0.00	0.03	1.59	3.75	4.24
Igo-Mercellong	1.26	-	1.31	-	1.95	0.24	0.01	0.12	4.66	15.72	2.96

27. The approved AFC and tariff for FY 2015-16 of 10 old HEPs calculated at net saleable energy is summarized in the table below:

Table 9: Approved AFC (Rs Cr) and Tariff (Rs/kWh) for 10 old HEPs for FY 2015-16

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int. on WC	Cons. Charge	Less: NTI	Total AFC (RsCr)	Net Saleable Energy (In MU)	Indicative Tariff (Rs per kWh)
Karnah	2.49	-	0.35	-	0.57	0.14	0.00	0.08	3.47	11.22	3.09
USHP-I	4.97	-	0.58	-	1.94	0.35	0.04	0.89	6.99	105.34	0.66
Lower Jhelum	12.50	-	5.30	-	17.69	1.93	0.21	4.12	33.51	602.14	0.56
Ganderbal	3.93	-	-	-	0.67	0.20	0.03	0.59	4.24	89.25	0.48
Iqbal Bridge	2.24	-	0.65	-	1.03	0.17	0.01	0.15	3.95	21.08	1.87
Bazgo	0.21	-	0.06	-	0.09	0.02	0.00	0.01	0.37	1.08	3.38
Sumoor	0.11	-	0.02	-	0.03	0.01	0.00	0.00	0.17	0.45	3.78
Hunder	0.27	-	0.07	-	0.12	0.02	0.00	0.02	0.46	1.76	2.61
Chenani-II	0.40	-	0.30	-	0.49	0.06	0.00	0.08	1.17	11.88	0.98
Chenani-I	3.82	-	1.65	-	3.30	0.43	0.05	0.91	8.34	108.92	0.77

28. The approved AFC and tariff for Baglihar HEP Stage I and Baglihar Transmission system for FY 2015-16 calculated at net saleable energy is summarized in table below:

Table 10: Approved AFC (Rs Cr) and tariff (Rs/kWh) for Baglihar Hydro and Transmission system for FY 2015-16

Description	Baglihar Hydro Project	Baglihar Transmission System
O&M Expenses	103.83	0.66
Interest on Loan	118.35	3.64
Depreciation	119.15	3.83
Advance against Depreciation (AAD)	137.55	4.07
Return on Equity	197.57	6.73
Interest on Working Capital	26.60	0.72
Consultancy Charges	0.89	0.00
Less: Non-tariff income	17.67	-
Net ARR	686.27	19.65
Net Saleable Energy in MU	2498.03	2498.03
Indicative Tariff Rs. per kWh	2.75	0.08

29. The approved AFC and tariff for Stakna HEP for FY 2015-16 calculated at net saleable energy is given in the table below:

Table 11: Approved AFC (Rs Cr.) and tariff (Rs/kWh) for Stakna HEP for FY 2015-16 (Rs Cr)

Description	Amount
O&M Expenses	0.21
Interest on Loan	0.00
Depreciation	0.21
Advance against Depreciation (AAD)	0.00
Return on Equity	0.53
Interest on Working Capital	0.05
Consultancy Charges	0.01
Total Annual Fixed Cost	1.01
Less: Non-tariff income	0.16
Net ARR	0.85
Net Saleable Energy in MU	19.33
Indicative Tariff Rs. per kWh	0.44

30. The approved AFC and tariff for Sanjak HEP for FY 2015-16 calculated at net saleable energy is given in the table below:

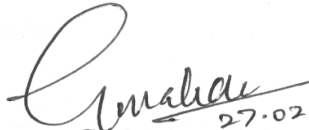
Table 12: Approved AFC (Rs Cr) and tariff (Rs/kWh) for Sanjak HEP for FY 2015-16


Description	Amount
O&M Expenses	0.16
Interest on Loan	0.64
Depreciation	0.25
Advance against Depreciation (AAD)	0.25
Return on Equity	0.36
Interest on Working Capital	0.06
Consultancy Charges	0.0025
Total Annual Fixed Cost	1.72
Less: Non-tariff income	0.05
Net ARR	1.67
Net Saleable Energy in MU	4.41
Indicative Tariff Rs. per kWh	3.79

Implementation of Order

31. The Commission admitted the Petition for FY 2015-16 and after thorough scrutiny and prudence check, determined the AFC and tariff recoverable by the Petitioner from JKPDD for 21 Hydro Generating Stations and Baglihar Transmission System for FY 2015-16.
32. The AFC & Tariff for 18 Hydro Generating Stations, Baglihar Hydro, Stakna HEP, Sanjak HEP and Baglihar Transmission System for FY 2015-16 as determined by the Commission shall be applicable for the energy sold and billed by the Petitioner during FY 2015-16.
33. The Commission also approves reimbursement of the consultancy charges for FY 2015-16, provisionally which includes Rs. 3.00 Lakhs of tariff filing fee revised for the FY 2015-16.
34. The Commission also approves the reimbursement of water usage charges payable by the Petitioner in FY 2015-16 in view of the order passed by the State Water Resource Regulatory Authority vide Order No. 89/JKSWRRA of 2014 dated 22nd December 2014. The Petitioner is hereby allowed to claim the water usage charges paid by them as pass through from JKPDD.
35. The Commission directs that this Order be implemented along with directions given and conditions mentioned in the detailed Order.
36. In exercise of the powers vested in it under the Jammu & Kashmir Electricity Act, 2010 (Act XIII of 2010), the Commission hereby passes this Order today, 27th February 2015. The tariff approved by the Commission herewith, shall be applicable from 1st April 2015 and shall remain in force till 31st March 2016 unless amended or modified by an Order of the Commission.

Ordered as above, read with attached detailed reasons, grounds and conditions.


G.M. Khan
(Member)
27.02.2015


Basharat Ahmad Dhar
(Chairperson)

Dated: 27th February 2015

Place: Jammu

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CHAPTER 1 - INTRODUCTION

Jammu & Kashmir State Electricity Regulatory Commission

1.1 The Jammu & Kashmir State Electricity Regulatory Commission (hereinafter referred to as JKSERC or the Commission) is a statutory body established under an Act of the State Legislature to regulate power sector in the State of Jammu & Kashmir.

1.2 Section 71 of the Jammu & Kashmir Electricity Act, 2010 has described the various functions required to be discharged by the Commission. These functions have been summarised below:

- (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:

Provided that where open access has been permitted to a category of consumers under section 36, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;

- (b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- (c) facilitate intra-state transmission and wheeling of electricity;
- (d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- (e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licencee;
- (f) adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
- (g) levy fee for the purposes of the Act;
- (h) specify State Grid Code consistent with the Grid Code specified under the Electricity Act, 2003 (Central);
- (i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- (j) fix the trading margin in the intra-State trading of electricity, if considered, necessary; and

- (k) discharge such other functions as may be assigned to it under this Act.
- 1.3 The Commission shall advise the State Government on all or any of the following matters, namely:
- (a) promotion of competition, efficiency and economy in activities of the electricity industry;
 - (b) promotion of investment in electricity industry;
 - (c) reorganisation and restructuring of electricity industry in the State;
 - (d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by the Government.
- 1.4 The Commission shall ensure transparency while exercising its powers and discharging its functions.
- 1.5 In discharge of its functions, the Commission shall be guided by the State Electricity Policy, State Electricity Plan, and Tariff Policy published under the provisions of the Act.

Jammu & Kashmir State Power Development Corporation Limited

- 1.6 The Jammu and Kashmir State Power Development Corporation Limited (hereinafter referred to as JKSPDC or the Petitioner) is a State Government owned company which owns and operates various hydro-generation power projects in the State of Jammu & Kashmir.
- 1.7 JKSPDC owns and operates a total of twenty two (22) hydro generating stations and one (1) transmission line in the state. Out of these 22 generating stations, one generating station namely Mohra has been defunct since the floods of September 1992. Stakna generating station has been transferred to JKSPDC by JKPDD in March 2011.
- 1.8 The main objects of the Corporation are:-
- (a) 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.
 - (b) 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.

- (c) To undertake, where necessary, the construction of transmission lines and ancillary works for timely and coordinated supply of Power.
 - (d) 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.
 - (e) 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.
 - (f) 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.
- 1.9 The Petitioner has filed a petition before the Jammu & Kashmir State Electricity Regulatory Commission (hereinafter referred to as the Commission) for approval of AFC and determination of tariff for FY 2015-16 in respect of the 21 HEPs operated by them.
- 1.10 The Petitioner has filed an application under Regulation 4 of the J&K State Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro-Generation Tariff) Regulations, 2011 dated April 20, 2011 (hereinafter referred to as JKSERC Hydro Generation Tariff Regulations, 2011), and J&K State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005 framed by the Commission for approval of its AFC and Tariff Petition for FY 2015-16 in respect of 21 hydro generating stations operated by them.
- 1.11 The Petitioner has filed an application under the JKSERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2012 dated September 06, 2012 (hereinafter referred to as JKSERC Transmission Tariff Regulations, 2012), and J&K State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005 framed by the Commission for approval of its AFC and Tariff Petition for FY 2015-16 in respect of the Transmission line operated by them.

Scope of the present Order

- 1.12 The ambit of the present Order extends to approval of annual fixed charges (AFC) and determination of tariff for 21 HEPs and Baglihar Transmission System owned and operated by the Petitioner as enumerated below:
- (a) Eight (8) Hydro Electric Projects, namely USHP II, Chenani III, Sewa III, Pahalgam, Igo – Marcellong, Bhaderwah, Marpachoo, Haftal.
 - (b) Ten (10) old Hydro Electric Projects, namely USHP I, Lower Jhelum, Chenani I, Ganderbal, Karnah, Iqbal Bridge, Bazgo, Sumoor, Hunder, Chenani II.
 - (c) Baglihar Hydro Electric Project Stage I which includes Baglihar Hydro Electric Project [Baglihar-Hydro] and a 68km long 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at 400 kV Kishenpur sub-station of PGCIL [Baglihar-Transmission System].
 - (d) Stakna HEP transferred to JKSPDC from JKPDD in March 2011.
 - (e) Sanjak HEP commissioned on 03rd of July 2013.
- 1.13 The determination and approval of AFC and tariff has been taken up separately for 8 HEPs, 10 HEPs, Baglihar HEP Stage I, Stakna HEP and Sanjak HEP in different chapters in this Tariff Order. This has been done since approval of cost and tariff pertaining to the said stations has been structured in the same manner in the Tariff Orders issued previously. Chapter 7 of the petition document pertaining to tariff and AFC proposal is also structured into different sub-sections to cover submissions regarding tariff and AFC proposed for 8 HEPs, 10 old HEPs, Baglihar HEP, Stakna HEP and Sanjak HEP, Gas Turbines I & II, etc.
- 1.14 The determination of AFC and indicative tariff for the 21 HEPs and Baglihar Transmission System has been done in the ensuing chapters of this Tariff Order.

Procedural History

- 1.15 The JKSPDC filed its first ARR & Tariff Petition on December 20, 2008, post framing of the J&K State Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro-Generation Tariff) Regulations, 2005.
- 1.16 The Commission issued the first Tariff Order for JKSPDC on March 31, 2009, which was applicable for the period April 1, 2008 to March 31, 2009.
- 1.17 The Commission in its first Tariff Order had directed the Petitioner that in case of the 10 old Hydro Electric Projects (HEPs) covered under the Power Purchase Agreement dated April 26, 2000, the next ARR and tariff proposal should be submitted either after tracing the old records in support of capital cost or determination of the capital cost through appropriate valuation methodology by engaging a consultant/ certified valuers.

The Petitioner has complied with the directive by engaging a consultant for valuation of assets for the 10 HEPs.

- 1.18 The Petitioner failed to file the ARR & Tariff Petition for the year 2009-10 and 2010-11 by the stipulated date of November 30, 2008 and November 30, 2009 respectively. The Petitioner, however, filed a combined Petition for the year 2009-10 and 2010-11 on January 12, 2010.
- 1.19 The Commission vide order No. JKSERC/04 of 2010 dated April 30, 2010 issued Tariff Order on ARR and determination of generation tariffs for FY 2009-10 and FY 2010-11 for 18 HEPs owned and operated by the JKSPDC, excluding Baglihar HEP which had been Commissioned on April 1, 2009. The Baglihar project consists of a Hydro Generating Station with an installed capacity of 450 MW and a 400kV Transmission Line. The Commission through the same Tariff Order dated April 30, 2010, directed the Petitioner to file a separate petition for the Baglihar HEP.
- 1.20 While passing Tariff Order for FY 2010-11 dated April 30, 2010, tariff for sale of power generated by the Baglihar Hydro project was provisionally allowed at the rate of Rs 3.54 per unit for FY 2009-10 and 2010-11. This was as per the rate allowed in the PPA executed between JKSPDC and JKPDD for the year 2009-10. However, the rate mentioned in the PPA for FY 2010-11 was Rs 3.71 per unit and the Commission through its Review Order No. JKSERC/25/2010 dated 9th November 2010 agreed to allow provisional charging of tariff in accordance with the PPA till such time the Tariff Order for the Baglihar HEP Stage I was approved by the Commission. The provisional tariff was agreed to be revised on approval of tariff by the Commission with retrospective effect from the date of commercial operation of the plant.
- 1.21 The Commission had further reiterated that the Petitioner shall submit audited DPR and documents in support of the capital cost claimed for Baglihar HEP along with the Tariff Petition. Moreover, the Commission opined that the capital cost for the Baglihar HEP shall only be allowed after due prudence check by the Commission.
- 1.22 The Petitioner filed a combined Petition for determination of capital cost of the project and approval of ARR and Tariff Petition for the years 2009-10 and 2010-11 for both the hydro generation station and the transmission system on 27th December 2010.
- 1.23 The Commission conducted a detailed prudence check on the submissions made by the Petitioner as regards capital cost of the Baglihar Hydro Project and Baglihar Transmission System. Accordingly, the Commission provisionally approved the capital cost of the project and determined tariff for FY 2009-10 and 2010-11 in its Tariff Order No. JKSERC/6 of 2011 issued on 16 June 2011.
- 1.24 Meanwhile the Petitioner filed a separate Tariff Petition No. JKSERC/27/2011 before the Commission on 28 February 2011 for determination of ARR and tariff for the year 2011-12 in respect of 19 HEPs and Baglihar transmission system and other incidental and related matters pertaining to generation of power in the state of Jammu and Kashmir.

- 1.25 The Commission approved the ARR and tariff for FY 2011-12 in respect of 19 HEPs and Baglihar transmission system in its Tariff Order No. JKSERC/11 dated 16 July 2011.
- 1.26 The Commission approved the ARR and tariff for FY 2012-13 in respect of 20 HEPs and Baglihar transmission system in its Tariff Order No. JKSERC/55 dated 4 April 2012.
- 1.27 The Commission approved the ARR and tariff for FY 2013-14 in respect of 20 HEPs and Baglihar transmission system in its Tariff Order No. JKSERC/131 dated 28 March 2013.
- 1.28 The Commission approved the ARR and tariff for FY 2014-15 in respect of 21 HEPs and Baglihar transmission system in its Tariff Order No. JKSERC/10 of 2014 dated 21st February 2014.

Information Gaps in the Petition

- 1.29 The Commission carried out a scrutiny of the Petition filed by the Petitioner and noticed several information gaps and data inconsistencies.
- 1.30 A note listing out the deficiencies in the Petition was prepared and the Petitioner was directed to submit suitable clarification, corrections and further information vide Commission's letter no. JKSERC/Secy/1273/17 dated 3rd December 2014.
- 1.31 The Petitioner submitted the requisite additional data and clarifications through its letter No. PDC/Tech/ P-241/ (iv)/T-1095/2954 dated 15 December 2014.
- 1.32 The Commission held a technical validation session with the Petitioner in its office premises on 6th January 2015 and reviewed additional data & clarifications provided. The tariff petition was admitted on the same day.
- 1.33 Subsequently, further clarifications were also obtained from the Petitioner, from time to time, till the finalisation of Tariff Order. The Commission regularly interacted with the officers of JKSPDC to validate the information submitted by them.

Inviting Public Response

- 1.34 The Commission vide letter No. JKSERC/Secy/1453 dated 6th January 2015 directed the Petitioner to publish gist of ARR & tariff petition as Public Notice in newspapers in English and local languages as per the requirement of Regulation 48(2), Chapter 5 of the JKSERC (Conduct of Business) Regulations 2005 and invite comments, objections and suggestions from consumers and other stakeholders on the Petition.
- 1.35 As directed by the Commission, the Petitioner published Public Notice in some of the widely read English, Hindi and Urdu newspapers indicating the salient features of its petition and inviting objections and suggestions from the consumers and other

stakeholders. The public notice appeared in the various newspapers as per the details tabulated below:

Table 13: Details of publication of notice inviting public response in state newspapers

Newspaper	City of publication	Date of publication
Daily Excelsior	Jammu	09.01.15
Daily Kashmir Times	Jammu	09.01.15
Daily Amar Ujalla	Jammu	09.01.15
Daily State Times	Jammu	09.01.15
Daily Rising Kashmir	Srinagar	10.01.15
Daily Greater Kashmir	Srinagar	10.01.15
Daily Srinagar Times	Srinagar	10.01.15
Daily Aftab	Srinagar	10.01.15

- 1.36 A copy of the above Public Notice along with the Tariff Petition was made available on the website of Commission and also on the Petitioner's website and at its office address mentioned in the notice. The last date for submitting the comments/ objections on AFC and Tariff Petition was 30th January 2015.
- 1.37 The public notice advised respondents to submit (in person or by post, fax or email) their objections, written either in English, Hindi or Urdu to the Commission with a copy to the Petitioner. Respondents were also given the option to be heard in person during the public hearings conducted by the Commission.
- 1.38 The Commission held public hearings at Jammu on 7th February 2015 and at Srinagar on 10th February 2015, to hear the response/ suggestions/ objections of the stakeholders/ public on the Petition filed by the Petitioner for determination of AFC and generation tariff for 21 HEPs and Baglihar Transmission System for FY 2015-16.
- 1.39 A summary of the issues raised by the objectors during the course of this process of tariff determination has been provided in Chapter 3 of this Tariff Order on Public Consultation Process along with the Petitioner's response and the Commission's views on the same.

Meeting of the State Advisory Committee

- 1.40 The Commission has constituted a State Advisory Committee in accordance with provisions of Section 68 of the Jammu & Kashmir Electricity Act, 2010.
- 1.41 The Commission convened a meeting of the State Advisory Committee (SAC) on 4th February, 2015 in Jammu to discuss the AFC and Tariff Petition submitted by the Petitioner for FY 2015-16. The list of participants at SAC meeting is provided as Annexure 1.

- 1.42 JKSPDC gave a detailed presentation on their petition before the SAC. The first part of the presentation dealt with the methodology for determination of various cost components of the tariff; summary of the Petition; status of compliance to directives issued by the Commission in Tariff Order of FY 2014-15; performance of the stations in previous years and other related issues. The second part of the presentation was on the capacity addition plan by way of harnessing the hydel potential in the State during the 12th and 13th Plan periods; the status of implementation/tendering/DPR preparation of various schemes/ projects envisaged in the capacity addition plan; the anticipated timelines for commissioning of upcoming stations and other related issues.
- 1.43 During the course of the presentation, JKSPDC besides soliciting approval of the AFC and proposed tariff for its generating stations, made the following submissions:-
- (a) The Commission may issue directions for reimbursement of expenses on operation and maintenance of Gas Turbine units at Pampore by the JKPDD to JKSPDC as the Corporation is maintaining the assets for JKPDD and which are operated as per their directives in emergencies only. While fuel charges are being reimbursed by the Utility, no funds on account of maintenance of the assets/staff are being provided to the Corporation at present. The JKSPDC also submitted that a proposal for running the Gas Turbines in synchronous condenser mode has been submitted to the State Govt./PDD and a decision in the matter is awaited.
 - (b) The Commission may issue further directives to JKPDD for taking over the receiving station at Mohra, exclusively catering to the requirement of PDD and presently being maintained by PDC.
 - (c) The BoD of JKSPDC in its 70th Meeting decided to take required action to make the necessary adjustments in the books of accounts for setting off the receivable outstanding as on 31.03.2014 from JKPDD amounting Rs 1987.37 crore with the plan funds received from the state Government ending March, 2014 amounting Rs 3406.84 crore and conversion of remaining grants of Rs 1419.47 crore into the State equity contribution to the JKSPDC. The JKSPDC also submitted that if the JKPDD repays the outstanding arrears proposed for adjustment in cash to the Corporation in future, the same adjustment shall be reversed. Resolution of the BoDs has not been operationalized so far, as the Finance Department, GoJK has asked for discussion in the matter. The matter is being pursued. The JKSPDC requested the Commission to issue a directive for early payment of dues by JKPDD.
 - (d) The Commission in its Tariff order for the Financial Year 2014-15 has approved to claim the water usage charges paid by JKSPDC as pass through from JKPDD. The JKSPDC requested the Commission to issue a similar directive on this issue during 2015-16. The SAC Members were also informed that JKSWRRA vide order dated 22.12.2014 has revised the water usage charges based on the Designed Head of a power project, which has considerably reduced the incidence of these charges on low head power projects of JKSPDC.

- (e) The Commission may consider reimbursement of income tax amounting to Rs. 55.83 crores paid by the corporation during the year 2014-15 in accordance with the relevant statutes/regulations on the subject.

1.44 The members of the State Advisory Committee during the course of the deliberation expressed the following views on the submissions of the JKSPDC:-

- (a) The SAC/Commission impressed upon the Principal Secretary (Power), Power Development Department to convene a meeting of the concerned parties viz. JKSPDC & JKPDD expeditiously for early resolution of the issue of O&M expenses of Gas Turbines as already directed in the tariff order for FY 2014-15.
- (b) Regarding transfer of Mohra Receiving Station, the SAC took a note of non-compliance of the directions of the Commission to take over the Receiving Station by PDD, passed in the tariff order for FY 2014-15. The SAC reiterated that the earlier directives to PDD to take over the Receiving Station be implemented and compliance reported by 1st of April, 2015.
- (c) The SAC desired that the Govt. should resolve the matter of outstanding payments of JKSPDC, which is a serious matter, expeditiously to keep the organization in good financial health. Member (Finance) of the Commission stated that the JKPDD has not been projecting demands for power purchase cost commensurate with the actual power purchase. Likewise there has also been non-projections of cost to meet Renewable Purchase Obligations despite the fact that Commission has earmarked separate funds for the same. This has resulted in a gap of Rs 1000 Cr between actual purchase and the funds available for the purchase in the State Budget. This situation was contributing towards insufficient payments to JKSPDC against bills raised by the corporation. The SAC was of the view that the component of cost of power purchase from JKSPDC specifically earmarked in the State Budget should, at least, be protected and paid to JKSPDC. Likewise the component of the power purchase budget earmarked by the Commission to meet RPO should be separately reflected in the power purchase budget of the department.
- (d) The Chairman of JKSERC solicited the opinion of the Members of the SAC regarding treatment of Water Usage Charges. The SAC Members unanimously endorsed the view that water usage charges should be kept outside the tariff framework and that the GoJK/Distribution Utility should reimburse the amount as a pass through.
- (e) Regarding reimbursement of income tax paid by the corporation, the JKSPDC was asked to show income tax on account of core activities and other activities separately in keeping with the provisions of the Regulations.

1.45 The following issues were also deliberated upon by the SAC:

- (a) The JKSPDC was asked to provide details of Corporate Social Responsibility (CSR) measures that are being planned to be undertaken. The corporation was advised to

notify Policy on CSR activities. The proposed policy should also be put in public domain to solicit suggestions.

- (b) The Chairman of JKSERC gave an example of Kishanganga HEP where modern tools are being used for implementation of the project and this has led to quicker identification of bottlenecks allowing efficient project execution. He suggested that such tools should be adopted by JKSPDC for monitoring of projects. In response JKSPDC stated that modern tools such as Primavera were already being used for monitoring and implementation of new projects. Use of such tools shall also be taken up in new upcoming projects.
 - (c) Members of the SAC stated that training of employees is essential for successful operation of plants. One of the Members expressed that for employees in operational functions, the training has to be done on actual equipment/machinery and that requirement of a class rooms for such training could be met by internal arrangements, to begin with. Members also suggested that while the training could be conducted at JKSPDC power stations, the trainers could be outsourced on need basis. The Chairman JKSERC impressed that it is very important for the training centres to start operating and enquired as to whether these shall be operationalized during this year. Managing Director, JKSPDC assured that the training facilities at BHEP would be in place within a month followed by similar arrangement at LJHP. He further stated that an amount of Rs. 48.00 lacs has been earmarked to start the training facility at Baglihar.
 - (d) On the issue of the recruitments of its own staff for strengthening of the corporation and to facilitate smooth operation of the existing and upcoming projects, the JKSPDC stated that recruitment of Engineers (Civil, Electrical and Mechanical) and other cadre like Accounts and Geology has been undertaken by the corporation which has helped not only to create a dedicated manpower for the efficient running of its power plants but also helped to relieve a sizeable number of employees who were on deputation to the Corporation from PDD & other departments.
 - (e) The SAC members expressed appreciation for excellent petition filed by JKSPDC. However, one of the members suggested that a list of abbreviations should be added in the petition.
- 1.46 The issues and concerns raised and the suggestions and recommendations offered by the SAC members have been considered by the Commission while preparing this Order.

CHAPTER 2 - SALIENT FEATURES OF THE PETITION

- 2.1 The Petitioner owns and operates twenty two (22) Hydro Electric Projects including Mohra HEP, one (1) Transmission System and two (2) Gas based Thermal Power Stations in the state of Jammu and Kashmir. Mohra HEP has not been functioning since it suffered severe damages in the floods of 1992.
- 2.2 Two Gas based Thermal Power Stations with a total of seven units are operated only on call from the JKPDD because of the prohibitive cost of power generation of these stations. The State Government only bears the cost of fuel whenever these units are operated.
- 2.3 The Petitioner filed a petition with the Commission on 25th November 2014 for approval of AFC and Tariff Petition for FY 2015-16 for:
- (a) Eight (8) Hydro Electric Projects, namely USHP II, Chenani III, Sewa III, Pahalgam, Igo – Marcellong, Bhaderwah, Marpachoo, Haftal.
 - (b) Ten (10) old Hydro Electric Projects, namely USHP I, Lower Jhelum, Karnah, Chenani-I, Ganderbal, , Iqbal Bridge, Bazgo, Sumoor, Hunder, Chenani II.
 - (c) Baglihar Hydro Electric Project Stage I which includes Baglihar Hydro Electric Project [Baglihar-Hydro] and a 68km long 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at 400 kV Kishenpur sub-station of PGCIL [Baglihar-Transmission System].
 - (d) 4 MW Stakna HEP transferred to JKSPDC from JKPDD in March 2011.
 - (e) 1.26 MW Sanjak HEP declared commercially operational on July 03, 2013.
 - (f) Gas based thermal power station I and II situated at Pampore (for reimbursement of O&M charges by JKPDD).
- 2.4 Chapter 7 of the JKSPDC petition for FY 2015-16 discusses and analyses various components taken into account for determination of tariff and AFC. This chapter is further structured into different sub-sections to cover submissions regarding tariff and AFC proposed for 8 HEPs, 10 HEPs, Baglihar HEP, Stakna HEP, Sanjak HEP, Gas Turbines I & II, etc.
- 2.5 The submissions made in the Petition in respect of the annual revenue requirement and tariff pertaining to the hydro projects, transmission line and gas based thermal power station along with the additional information and clarifications provided by the Petitioner have been summarised in this chapter.

Particulars of power generating stations, transmission system and gas based generating stations

- 2.6 The Petitioner operates twenty one (21) hydroelectric power stations which have a total installed capacity of 761.96 MW besides Mohra hydro generating station which has not been operational since the damage suffered in the floods of September 1992.
- 2.7 Eight out of the 21 hydro generating stations mentioned above have been commercially commissioned between 2002 and 2007. The Commission has approved the completion cost of these 8 hydro generating stations. Ten old hydro generating stations have been commercially commissioned at different times during the period from 1961 to 1996. Stakna HEP has been transferred by JKPDD to JKSPDC in March 2011. Sanjak HEP has been declared commercially operational on July 03, 2013.
- 2.8 The Baglihar project consists of a 450 MW hydro generating station and a 68 km long 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at Kishenpur sub-station of PGCIL. Baglihar HEP Stage I project was made commercially operational w.e.f. 1st April 2009.
- 2.9 In addition to the above mentioned hydroelectric projects, the Petitioner also has two Gas based Thermal Power Stations which have a total of seven units having capacity of 25 MW each. These are operated only on call from the Transmission and Distribution Utility because of the high cost of power generation. The State Government only bears the cost of fuel whenever these units are operated.
- 2.10 Details regarding installed capacity and date of Commissioning of various generating stations operated by the Petitioner excluding Mohra HEP have been summarized in the following tables.

Table 14: Details regarding Hydro Generating 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

Sl. No.	Name of Power House	Unit	Capacity of each unit (MW)	Installed Capacity (MW)	Year of Commissioning
5	Karnah	Unit I	1.00	2.00	1991
		Unit II	1.00		1997
6	Pahalgam	Unit I	1.50	4.50	June, 2005
		Unit II	1.50		June, 2005
		Unit III	1.50		July, 2013
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	Bhaderwah	Unit I	0.50	1.50	May, 2005
		Unit II	0.50		May, 2005
		Unit III	0.50		September, 2012
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

Sl. No.	Name of Power House	Unit	Capacity of each unit (MW)	Installed Capacity (MW)	Year of Commissioning
19	Haftal	Unit I	0.50	1.00	2006-2007
		Unit II	0.50		2006-2007
20	Stakna	Unit I	2.00	4.00	1987
		Unit II	2.00		1987
21	Sanjak	Unit I	0.42	1.26	July, 2013
		Unit II	0.42		
		Unit III	0.42		
Total capacity in MW			761.96		

Table 15: Details regarding Gas Based Generating Stations

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	

Energy Sales within the State and status of billing energy

- 2.11 The Petitioner has submitted that the electricity generated by the HEPs which have been commissioned, is being sold within the state to the Jammu and Kashmir Power Development Department (JKPDD). However, 50% of the power generated at the Baglihar HEP Stage I Project is sold through Power Trading Corporation (PTC) to meet the lenders requirement.
- 2.12 The Petitioner has also submitted in its Petition that the billing of energy is presently being done as per the Tariff Order issued by the JKSERC as on 21st February, 2014 applicable for the financial year 2014-15.

Compliance of Directives

- 2.13 The Commission had issued various directives to the Petitioner in its Tariff Order No. JKSERC/10 of 2014 dated 21st February 2014 regarding ARR and tariff for FY 2014-15.

2.14 The Petitioner has made submissions regarding the status of compliance of directives given to them. The following table provides a summary of the status of compliance of the directives issued to the Petitioner.

Table 16: Status of compliance with directives

Sl.	Directive	Status of Compliance
A.	Compliance of directives issued in Tariff Order dated 21 February 2014	
1.	Performance improvement measures	The Petitioner submitted that the benchmarking studies and performance audit work of all power projects of JKSPDC has been assigned to AHEC, IIT Roorkee. Necessary financial outlay has been provided for the assignment in the current years works programme based on offers received from AHEC, IIT Roorkee..
2.	Original capital cost & additional capitalisation of BHEP-Stage I & Baglihar Transmission System based on audited accounts	<p>The Petitioner submitted that NHPC had obtained most of the clearances for the project as NHPC was managing the project earlier. Later on it was taken over by GoJK for implementation in state sector. The DPR of 450 MW BHEP-I was prepared by SNC Lavalin in association with J.P. Associates based on which the cost for civil & Hydro Mechanical works was worked out. The cost for Civil & Hydro Mechanical Works was worked out as Rs 1634.12 crore (in year 1997) the details of which has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014. A contract agreement was executed between JKSPDC & Jaiprakash Associates Ltd in April, 1999 for execution of Civil & Hydro Mechanical Works. Consequent to the force majeure events & damage suffered by the project, time extensions were granted to the contractor. The project cost was revised by the JKSPDC & was further scrutinized & recommended by a Committee set up by the Ministry of Power, GOI, under the Chairmanship of Member Hydro, CEA. Consequently the State Government approved the revised cost of Rs. 5200 crore for Baglihar HEP-I vide Govt. order No. 166-PDD of 2008. Thereafter, the project was commissioned for commercial operation on 01.04.2009 and the project cost was revised to Rs 5827 Cr due to additional works incurred which were duly recommended by Cost Engineering Committee and BoDs. Copy of Board resolution has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.</p> <p>Regarding audited accounts, the Petitioner submitted that the accounts of JKSPDC upto FY 2010-11 have been updated by CAG, copy of which has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014. The audit of accounts/ balance sheets for the year FY 2011-12 till FY 2013-14 is underway. Provisional accounts for the FY 12 and FY 13 have been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014. The details of source of funding, repayment schedule, subsidy etc. has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.</p>
3.	Additional Capitalisation of Pahalgam HEP	<p>The Petitioner submitted that it has incurred an expenditure of Rs. 435.49 lacs (ending January, 2014) on capital works for augmenting the capacity of the project from 3.0 MW to 4.50 MW by installing additional unit of 1.50 MW. Copy of the auditors certificate has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014. The Project has been funded as under:-</p> <ul style="list-style-type: none"> • JKSPDC own Sources- Rs. 368.74 lacs. • Subsidy from MNRE- Rs. 66.75 lacs.
4.	Income Tax	Copy of provisional P&L and tax liability certificate for the FY 2013-14 has been enclosed as Annexure A(1) of the Petition. Copy of provisional balance sheet for the FY 2013-14 has also been enclosed.
5.	Valuation of capital	The Petitioner has submitted the copy of valuation report duly prepared by M/s RSA&

Sl.	Directive	Status of Compliance
	cost of Sanjak HEP	Co. (Independent technical consultant) as part of Annexure A(4) of the Petition.
6.	Details regarding consultancy charges	The Petitioner submitted that the consultancy charges as indicated in the current Petition & previous Petition are being charged on proportionate basis as per the capacity of the project. The details of year-wise consultancy charges duly certified by approving authority have been enclosed as Annexure A (5).
7.	Report on benefits accrued from swapping of loans	Details have been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.
8.	Report on analysis of breakdown of plants in FY 2012-13 and FY 2013-14	Project wise report on analysis of Breakdown for the financial year 2012-13 & 2013-14 has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.
9.	Status Report on R&M works and generation at USHP-II	Status report on restoration of Wangath Link Canal (Water Conductor) & construction of alternate spill channel has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.
10.	Corporate Social Responsibility	The Petitioner submitted that it wants to imbibe best practices on Corporate Social Responsibility adopted by other PSUs/ Pvt. Sector. For this purpose, relevant documents available in the public domain have been studied. A working paper on these lines is being prepared which shall be submitted to BoDs for the approval. The same shall be submitted to the Commission after receiving the mandatory approvals.
11.	Status Report on RM&U and stabilisation works	Status Report on RM&U and stabilization works has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.
12.	Details of Subsidy for each project	Details of project wise subsidy received have been enclosed as Annexure A(6) of the tariff Petition.
13.	Modern Tools for monitoring implementation of New Projects	<p>The Petitioner submitted that it normally executes projects on EPC basis. The onus of completing the project as per pre-defined completion time lies with the EPC contractor. The monitoring of the project is then made as per the agreed timelines</p> <p>For BHEP-II, Lahmeyer International, on behalf of JKSPDC, is using modern tools i.e. Primavera-6 & Microsoft Project 2010 for monitoring. Copy of monitoring report of Lahmeyer International has been submitted to the Commission vide JKSPDC letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23.08.2014.</p> <p>For other projects being implemented in the State, the EPC contractor is required to submit PERT charts, which are used as a reference point of monitoring, slippage if any is monitored by JKSPDC invariably on the basis of PERT chart submitted by the EPC contractor. To further refine the process, the Petitioner has initiated the process of independent monitoring of the projects through ERP solutions. In the first phase, the accounting model has been implemented and JKSPDC has fully migrated to double entry accounting system. In the second phase, JKSPDC intends to implement project monitoring, inventory management, payroll system etc. for which gap analysis is being conducted.</p>
14.	Establishment of training schools	<p>The Petitioner submitted that it proposes to set up two training schools, one at BHEP & the other at LJHP. For both these schools, funds have been earmarked in the current year's work programme.</p> <p>BHEP: Existing infrastructure is proposed to be upgraded for which DPR of Rs. 48.00 lacs has been approved for implementation. The works are in tendering stage.</p> <p>LJHP: DPR has been prepared & is under review. The works are targeted to be tendered out after assembly elections.</p>

Sl.	Directive	Status of Compliance
		Besides the proposed training schools, the establishment of a hydro training institute at Kangan is also underway for which MoU has been signed between JKSPDC & NHPC.

Tariff Proposal for Eight HEPs

Project Cost and Design Energy of Eight HEPs

- 2.15 The Commission has approved the capital cost of these 8 HEP stations on the basis of the audited cost completion report submitted by the Petitioner. The design energy for all these plants was validated by an independent consultant in accordance with a directive issued by the Commission. The report on design energy issued by the independent consultant was approved by the Commission.
- 2.16 The Petitioner has proposed an additional capitalization of Rs 4.3549 Cr in respect of Pahalgam HEP.
- 2.17 The following table provides a summary of the total project cost, proposed additional capitalization, installed capacity and design energy for each of the 8 HEPs.

Table 17: Installed Capacity, Project Cost and Design Energy for 8 HEPs (Rs Cr)

Name of HEP	Approved Capacity (MW)	Admitted Cost (Rs Cr.)	Design Energy (MU)	Proposed additional capitalization (Rs Cr.)	Proposed design energy (MU)
USHP-II	105	435.00	447.37	-	447.37
Chennani-III	7.5	54.97	36.71	-	36.71
Sewa-III	9.00	66.84	33.06	-	33.06
Pahalgam	4.50*	55.20	14.92	4.3549	17.30
Igo-Mercellong	3.00	49.42	15.88	-	15.88
Bhaderwah	1.50	10.60	9.44	-	9.44
Marpachoo	0.75	12.85	3.79	-	3.79
Haftal	1.00	16.13	4.88	-	4.88

*The capacity includes additional 1.5 MW (Unit-III) provisionally approved in the Tariff Order for FY 2014-15

Norms of Operation

- 2.18 The Petitioner has followed the norms as specified in Chapter 3 of JKSERC (Hydro Generation Tariff) Regulations, 2011 for filing the tariff for eight hydro generating stations. The norms considered are given in the following table.

Table 18: Norms of operation for hydro generating stations

S.No	Particulars	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%	0.50%
4.	O&M Expenses	HEPs more than 5 years - Average of actual expenses for 2005-06 to 2009-10 taken as base for 2007-08 and escalated thereon.	
		HEPs less than 5 years - 1.50% of capital cost	
	Annual Escalation	4.00%	
5.	Depreciation		
	Plant Life	As per Regulation	
	Residual Value	10%	
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation	
6.	Working Capital		
	Receivable	2 months of fixed charges	
	O & M Expenses	1 month	
	Spares for Maintenance	1% of historic cost	
	Escalation in Spares Inventory	6% p.a.	
	Rate of Interest p.a.	13.50% as per PLR of J&K Bank as on 1.4.2011	
7.	Return on Equity	14% of normative equity	
8.	Initial Spares as part of Capital Cost	1.50% of capital cost	
9.	Equity	30% of net capital cost	
	Loan	70% of net capital cost	
10.	Interest	as per sanction	
11.	Moratorium	No moratorium after COD	

Interest on Loan Capital

2.19 The Petitioner has submitted details regarding loan liabilities, rate of interest thereon and moratorium period for these HEPs as part of this petition. The Petitioner has submitted that the total interest on loan has been worked out as per provisions of Regulation 22 of the JKSERC (Hydro Generation Tariff) Regulations, 2011.

2.20 The Petitioner submitted that the erstwhile loan undertaken with respect to USHP II, Chenani III, Sewa III, Igo-Merchellong and Bhaderwah HEPs which have been in operation for more than ten years, have been considered to be repaid in full, therefore

no interest on loan for the HEPs has been claimed and that the Project cost of Pahalgam HEP includes proposed additional capitalization of Rs 4.3549 Cr.

- 2.21 The following table provides a summary of the interest on loan proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 19: Proposed Interest on Loan for 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo-Mercellong	Bhaderwah	Marpachoo	Haftal
Total cost of project	435.00	54.97	66.84	59.57	49.42	10.60	12.85	16.13
MNRE subsidy	0.00	0.00	0.00	3.67	3.00	2.44	1.70	2.25
Net cost of the project	435.00	54.97	66.84	55.90	46.42	8.16	11.15	13.88
Total normative Loan considering 70% of the net cost of the project	304.50	38.48	46.79	39.13	32.50	5.71	7.80	9.72
Total normative Equity considering 30% of the net cost of the project	130.50	16.49	20.05	16.77	13.93	2.45	3.34	4.16
Rate of Interest on loan	14.50%	15%	15%	13.00%	13%	13%	13%	13%
Interest Amount for the year 2015-16	0.00	0.00	0.00	0.29	0.00	0.00	0.05	0.06

Depreciation including Advance against Depreciation

- 2.22 The Petitioner has submitted that depreciation has been calculated annually based on Straight Line Method considering the useful life as per JKSERC regulations except for USHP II, Chenani III and Sewa III hydro generating plants. Depreciation for these HEPs has been calculated by apportioning the net book value of the assets over the remaining useful life of the assets. This methodology is in line with Regulation 23(3) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which states that on repayment of entire loan, remaining depreciation value shall be spread over balance useful life of the asset.

- 2.23 The following table provides a summary of the depreciation proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 20: Proposed Depreciation for 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo-Mercellong	Bhaderwah	Marpachoo	Haftal
Cost of project excluding Land Cost	427.50	53.52	66.14	58.98	49.34	10.45	12.73	16.08
Residual value	10%	10%	10%	10%	10%.	10%.	10%.	10%.

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo-Mercellong	Bhaderwah	Marpachoo	Haftal
Total Depreciation to be claimed	384.75	48.17	59.53	53.09	44.11	9.41	11.46	14.47
Normal depreciation rate	As per Regulations. Details provided in Annexure – A2 of Tariff Petition							
Total depreciation for the year 2015-16	11.50	1.41	1.76	1.76	1.31	0.30	0.35	0.42

2.24 The Petitioner has submitted that Advance against Depreciation (AAD) has been calculated as per the formula ‘Advance against Depreciation = Annual Repayment of Loan – Normal Depreciation’.

2.25 The following table provides a summary of advance against depreciation proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 21: Proposed Advance against Depreciation for 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo - Merchellong	Bhaderwah	Marpachoo	Haftal
Total Normative Loan Amount	304.50	38.48	46.79	40.81	32.50	5.71	7.80	9.72
1/10th of Loan	30.45	3.85	4.68	4.08	3.25	0.57	0.78	0.97
Annual Repayment of Loan	AAD is not considered as the loan is repaid in full			0.26	3.25	0.00	0.78	0.97
Normal Depreciation for full year				1.76	1.31	0.30	0.35	0.42
Advance Against Depreciation 2015-16	0.00	0.00	0.00	0.14	1.94	0.00	0.43	0.55

Return on Equity

2.26 The Petitioner has submitted that return on equity (RoE) proposed for FY 2015-16 has been calculated as per provisions of Regulation 25 of the JKSERC Hydro Generation Tariff Regulations, 2011.

2.27 Equity for the purpose of calculation of RoE has been computed as per Regulation 18 of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly debt equity ratio of 70:30 has been considered.

2.28 The following table provides a summary of return on equity proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 22: Proposed Return on Equity for 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo - Merchellong	Bhaderwah	Marpachoo	Haftal
Net cost of the Project	435.00	54.97	66.84	55.90	46.42	8.16	11.15	13.88
Total normative Equity 30% of the Project Cost	130.50	16.49	20.05	16.77	13.93	2.45	3.34	4.16
Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
Return on Equity for FY 2015-16	18.27	2.31	2.81	2.35	1.95	0.34	0.47	0.58

Operation & Maintenance Expenses

- 2.29 The Petitioner has submitted that Operation & Maintenance Expenses of HEPs which are in operation for 5 years or more have been calculated as per provisions under Regulation 26(1) of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly average of actual operation and maintenance expenses for the years 2005-06 to 2009-10 has been considered as operation & maintenance expenses for 2007-08 and same has been escalated at the rate of 4% per annum to arrive at the O&M expenses for the year 2015-16.
- 2.30 The Petitioner has further submitted that O&M expenses of HEPs which are in operation for less than 5 years have been calculated as per provisions under Regulation 26(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly, O&M expenses have been considered @ 1.5% of the capital cost from COD with escalation @ 4% per annum.
- 2.31 The following tables provide a summary of O&M expenses proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 23: Proposed O&M expenses for 6 out of 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo - Merchellong	Bhaderwah
Year of Commissioning	2000/ 2001/ 2002	2003	2002/ 2003	2005	2005	2005
Calculation of Base O&M 2007-08:	7.77	1.09	1.50	0.86	0.92	0.15
Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
O&M Expenses for the year as per regulation for FY 2015-16	10.63	1.49	2.06	1.17	1.16	0.21

Table 24: Proposed O&M expenses for other 2 HEPs (Rs Cr)

Name of HEP	Marpachoo	Haftal
Capital Cost	12.85	16.13
Calculation of Base O & M	1.50%	1.50%
Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%
O&M Expenses for the year on admitted capital cost as per regulation	0.27	0.34

Interest on Working Capital

2.32 The Petitioner has submitted that the requirement of Working Capital & Interest thereon has been computed as per Regulation 27 'Interest on Working Capital' of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Interest at the rate of 13.50 % per annum on working capital has been considered. This was the Prime Lending Rate (PLR) of Jammu & Kashmir Bank as on 1st April 2011.

2.33 The following tables provide a summary of interest on working capital proposed by the Petitioner for 8 HEPs for FY 2015-16.

Table 25: Proposed interest on working capital for 8 HEPs (Rs Cr)

Name of HEP	USHP II	Chenani III	Sewa III	Pahalgam	Igo-Mercellong	Bhaderwah	Marpachoo	Haftal
Receivable (2 Months)	7.17	0.92	1.17	1.00	0.79	0.15	0.27	0.34
O & M Expenses (1 Months)	0.89	0.12	0.17	0.10	0.11	0.02	0.02	0.03
Spares for Maintenance @ 1%	9.25	1.11	1.35	0.93	0.83	0.18	0.20	0.25
Escalation in spares @ 6%	0.56	0.07	0.08	0.06	0.05	0.01	0.01	0.02
Spares for Maintenance @ 1% for addl. Capitalization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total working capital requirement as per regulation	17.87	2.23	2.77	2.09	1.78	0.36	0.51	0.64
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on working Capital for FY 2015-16	2.41	0.30	0.37	0.28	0.24	0.05	0.07	0.09

Consultancy expenses

2.34 The Petitioner has submitted that consultancy charges for Rs.1.7075 Cr have been considered in the AFC of respective HEPs in proportion to the installed capacity in megawatt (MW). Details of other expenses are given in the table below.

Table 26: Proposed amount of consultancy expenses (Rs Cr)

Consultancy Expense	Total
Corporate Restructuring	0.200
Double Entry System	0.22
Preparation of ARR & Tariff Petition	0.0175
IPO for JKSPDC	0.25
Coal Block allocation to JKSPDC	0.22
CDM Consultancy	0.80
Total	1.7075

2.35 The following table provides the amount of consultancy charges apportioned across various HEPs as per the installed capacity.

Table 27: Apportioned amount of consultancy expenses for 8 HEPs (Rs Cr)

Name of Power House	Capacity (MW)	Proportionate Consultancy Charges
Upper Sindh-II	105.00	0.24
Pahalgam	4.50	0.01
Chenani-III	7.50	0.02
Bhaderwah	1.50	0.00
Sewa-III	9.00	0.02
Igo-Mercellong	3.00	0.01
Haftal	1.00	0.00
Marpachoo	0.75	0.00

Non-Tariff Income

2.36 The Petitioner has projected station-wise Non-Tariff Income (NTI) for FY 2015-16. The detail of station-wise NTI projected is provided in the following table:

Table 28: Projection of Non-Tariff Income for 8 HEPs (Rs Cr)

Name of Power House	Capacity (MW)	Proportionate NTI
Upper Sindh-II	105.00	4.13
Pahalgam	4.50	0.18
Chenani-III	7.50	0.30
Bhaderwah	1.50	0.06
Sewa-III	9.00	0.35
Igo-Mercellong	3.00	0.12
Haftal	1.00	0.04
Marpachoo	0.75	0.03

Annual Fixed Charges and Indicative Tariff Proposed for 8 HEPs for FY 2015-16

2.37 The Petitioner has submitted that the annual fixed charges proposed for FY 2015-16 have been calculated by considering the various components of tariff and provisions of the Regulations as detailed above. The indicative tariff proposed for FY 2015-16 has been computed by taking into account saleable energy of various HEPs.

2.38 The table below provides the component wise break-up of total annual fixed charges and the indicative tariff submitted by the Petitioner for approval in respect of 8 HEPs for FY 2015-16.

Table 29: Proposed AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for 8 HEPs for FY 2015-16

Component-wise AFC & Tariff submitted by Petitioner for FY 2015-16											
Name of HEP	Interest on Loan (Rs Cr)	Depn (Rs Cr)	AAD (Rs Cr)	Return on Equity (Rs Cr)	O&M Expenses (Rs Cr)	Interest on Working Capital (Rs Cr)	Cons. Charges (Rs Cr)	Less: NTI (Rs Cr)	Total AFC (Rs Cr)	Design Energy (In MU)	Indicative Tariff (Rs/kWh)
USHP-II	0.00	11.50	0.00	18.27	10.63	2.41	0.24	4.13	38.92	447.37	0.88
Chenani-III	0.00	1.41	0.00	2.31	1.49	0.30	0.02	0.30	5.23	36.71	1.44
Sewa-III	0.00	1.76	0.00	2.81	2.06	0.37	0.02	0.35	6.66	33.06	2.04
Bhaderwah	0.00	0.30	0.00	0.34	0.21	0.05	0.00	0.06	0.85	9.44	0.91
Pahalgam	0.29	1.76	0.14	2.35	1.17	0.28	0.01	0.18	5.82	17.30	3.40
Haftal	0.06	0.42	0.55	0.58	0.34	0.09	0.00	0.04	2.01	4.88	4.16
Marpachoo	0.05	0.35	0.43	0.47	0.27	0.07	0.00	0.03	1.61	3.79	4.30
Igo-Mercellong	0.00	1.31	0.00	1.95	1.26	0.24	0.01	0.12	4.65	15.88	2.96

Tariff Proposal for 10 old HEPs

Project Cost and Design Energy

- 2.39 The cost of completion and design energy for each of the 10 HEPs was validated by an independent consultant in compliance with the directives issued by the Commission. The Commission has approved the cost of completion and design energy of these plants in the Tariff Order dated 30 April 2010.
- 2.40 The Petitioner has submitted that although there had been additional capital works undertaken but since they do not stand completed, no additional capitalisation is sought on this account.
- 2.41 The following table provides a summary of the installed capacity, total project cost and design energy of each of the 10 old HEPs.

Table 30: Project Cost and Design Energy for 10 old HEPs (Rs Cr)

Name of HEP	Capacity (MW)	Admitted Cost	Design Energy (MU)
Upper Sind-I	22.60	46.26	106.62
Lower Jhelum	105.00	421.25	609.43
Ganderbal	15.00	15.95	90.15
Chenani-I	23.30	78.51	110.02
Karnah	2.00	13.55	11.36
Iqbal Bridge	3.75	24.63	21.23
Bazgo	0.30	2.16	1.09
Sumoor	0.10	0.70	0.45
Hunder	0.40	2.86	1.77
Chenani-II	2.00	11.73	12.00

Norms of Operation

- 2.42 The norms of operation upon which the Petitioner has based the computation of proposed AFC and tariff have been summarised in Table 31.

Table 31: Norms of operation for 10 old HEPs

No	Particulars	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

No	Particulars	Value	
	Surface	0.20%	0.50%
	Underground	0.40%	0.70%
3.	Transformer Losses	0.50%	0.50%
4.	O&M Expenses	For HEPs more than 5 years in operation	Average of actual expenses for 2005-06 to 2009-10 taken as base for 2007-08 and escalated thereon.
	Annual Escalation	4.00%	
5.	Depreciation		
	Plant Life	As per regulations	
	Residual Value	10%	
	Advance Against Depreciation	Equivalent to difference of repayment of loan and normal depreciation with regard to proposed additional capitalization.	
6.	Working Capital		
	Receivable	2 months of fixed charges	
	O & M Expenses	1 month	
	Spares for Maintenance	1%	
	Escalation in Spares Inventory	6% per annum	
	Rate of Interest p.a.	13.50% as per PLR of J&K Bank as on 1.4.2011	
7.	Return on Equity	14% of normative equity	
8.	Equity	30% of net project cost	
	Loan	70% of net project cost	

Interest on Loan

2.43 The Petitioner has submitted that Interest on Loan has been considered as zero.

Depreciation including Advance against Depreciation

2.44 Depreciation has been calculated annually based on straight line method considering the useful life as per JKSERC (Hydro Generation Tariff) Regulations, 2011. Details of depreciation for these ten HEPs are given as under:

Table 32: Proposed depreciation for 10 old HEPs

Name of HEP	USHP I	LJHP	Ganderbal	Chenani-I	Karnah	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani II
Cost of project excluding Land Cost	46.26	421.25	15.95	78.51	13.55	24.63	2.16	0.70	2.86	11.73
Residual value	10%.	10%.	10%.	10%.	10%.	10%	10%	10%	10%	10%.
Total Depreciation claimed	41.63	379.12	14.36	70.65	12.19	22.17	1.94	0.63	2.57	10.56

Normal depreciation rate	As per Regulations. Details provided in Annexure – A2 of Tariff Petition									
Total depreciation for FY 2015-16	1.20	10.92	0.41	2.03	0.35	0.65	0.06	0.02	0.07	0.30

2.45 The Petitioner has submitted that Advance against Depreciation (AAD) has been considered as zero.

Return on Equity

2.46 The Petitioner submitted that return on equity proposed for FY 2015-16 has been computed in accordance with provisions of Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. RoE proposed by the Petitioner is summarised in the table below.

Table 33: Proposed return on equity for 10 old HEPs (Rs Cr)

Name of HEP	USHP I	LJHP	Ganderbal	Chenani I	Karnah	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani II
Net cost of the Project	46.26	421.25	15.95	78.51	13.55	24.63	2.16	0.7	2.86	11.73
Total normative Equity 30% of the Project Cost	13.88	126.37	4.79	23.55	4.06	7.39	0.65	0.21	0.86	3.52
Rate of Return on Equity	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
Return on Equity	1.94	17.69	0.67	3.30	0.57	1.03	0.09	0.03	0.12	0.49

Operation & Maintenance expenses

2.47 The Petitioner submitted that O&M Expenses of HEPs which are in operation for 5 years or more have been calculated as per provisions under Regulation 26(1) of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly average of actual O&M expenses for the years 2005-06 to 2009-10 have been considered as O&M expenses for 2007-08 and the same have been escalated at the rate of 4% per annum to arrive at the O&M expenses for the year 2014-15. The details of annual O&M cost are as under:

Table 34: Proposed O&M expenses for 10 old HEPs (Rs Cr)

Name of HEP	USHP-I	LJHP	Ganderbal	Chenani-I	Karnah	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani-II
Year of Commissioning	1973/1974	1978/1979	1955/1961	1971/1975	1991/1997	1995/1996	1994	1993	1995	1996
Calculation of Base O & M - 2007-08 #:	3.63	9.13	2.87	2.79	1.82	1.64	0.16	0.08	0.20	0.29
Annual Escalation in O&M expenses as per Regulation	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
O&M Expenses for the year as per Regulation										
2013-14	4.60	11.56	3.64	3.53	2.30	2.08	0.20	0.10	0.25	0.37
2014-15	4.78	12.02	3.78	3.68	2.39	2.16	0.21	0.10	0.26	0.38
2015-16	4.97	12.50	3.93	3.82	2.49	2.24	0.21	0.11	0.27	0.40

Interest on Working Capital

2.48 The Petitioner submitted that requirement of working capital & interest thereon has been computed as per Regulation 27 'Interest on Working Capital' of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Interest at the rate of 13.50 % per annum on working capital has been considered which is the Prime Lending Rate (PLR) of Jammu & Kashmir Bank as on 1 April 2011. The calculation of interest on working capital is summarized below:

Table 35: Proposed interest on working capital for 10 old HEPs (Rs Cr)

Name of HEP	USHP I	LJHP	Ganderbal	Chenani-I	Karnah	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani II
Receivable (2 Months)	1.46	7.39	0.90	1.65	0.59	0.69	0.06	0.03	0.08	0.21
O & M Expenses (1 Months)	0.41	1.04	0.33	0.32	0.21	0.19	0.02	0.01	0.02	0.03
Spares for Maintenance @ 1%	2.37	12.88	1.39	2.86	0.28	0.56	0.04	0.01	0.06	0.31
Escalation in spares @ 6%	0.14	0.77	0.08	0.17	0.02	0.03	0.00	0.00	0.00	0.02
Spares for Maintenance @ 1% for additional capitalization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Name of HEP	USHP I	LJHP	Ganderbal	Chenani-I	Karnah	Iqbal Bridge	Bazgo	Sumoor	Hunder	Chenani II
Total Working Capital Requirement as per regulation	4.39	22.08	2.70	5.00	1.09	1.47	0.13	0.05	0.16	0.57
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on working Capital	0.57	2.89	0.35	0.65	0.15	0.20	0.02	0.01	0.02	0.08

Consultancy expenses

- 2.49 The Petitioner has submitted that consultancy charges for Rs.1.71 Cr have been considered in the AFC of respective HEPs in proportion to the installed capacity in megawatt (MW).
- 2.50 The following table provides the amount of consultancy charges apportioned across various HEPs as per the installed capacity.

Table 36: Apportioned amount of consultancy expenses for 10 old HEPs (Rs Cr)

Name of Power House	Capacity (MW)	Proportionate Consultancy Charges
Lower Jhelum	105.00	0.24
Upper Sindh-I	22.60	0.05
Ganderbal	15.00	0.03
Karnah	2.00	0.00
Chenani-I	23.30	0.05
Chennai-II	2.00	0.00
Iqbal Bridge	3.75	0.01
Hunder	0.40	0.00
Sumoor	0.10	0.00
Bazgo	0.30	0.00

Non-Tariff Income

- 2.51 The Petitioner has projected HEP wise Non-Tariff Income (NTI) for FY 2015-16. The detail of station wise NTI projected is provided in the following table:

Table 37: Projection of Non-Tariff Income for 10 HEPs (Rs Cr)

Name of Power House	Capacity (MW)	Proportionate NTI
Lower Jhelum	105.00	4.13
Upper Sindh-I	22.60	0.89
Ganderbal	15.00	0.59
Karnah	2.00	0.08
Chenani-I	23.30	0.92
Chennai-II	2.00	0.08
Iqbal Bridge	3.75	0.15
Hunder	0.40	0.02
Sumoor	0.10	0.00
Bazgo	0.30	0.01

Annual Fixed Charges and Indicative Tariff Proposed for 10 HEPs for FY 2015-16

- 2.52 The Petitioner submitted that the annual fixed charges proposed for FY 2015-16 have been calculated by considering the various components of tariff and provisions of regulations as detailed above. The indicative tariff proposed for FY 2015-16 has been computed by taking into account saleable energy of various HEPs.
- 2.53 The following table provides the component wise break-up of total annual fixed charges and the indicative tariff submitted by the Petitioner for approval in respect of 10 old HEPs for FY 2015-16.

Table 38: Proposed AFC and Indicative Tariff for 10 old HEPs (Rs Cr) for FY 2015-16

Name of HEP	Component-wise AFC & Tariff submitted by Petitioner for FY 2015-16										
	Interest on Loan (Rs Cr)	Depn (RsCr)	AAD (Rs Cr)	Return on Equity (Rs Cr)	O&M Expenses (Rs Cr)	Interest on Working Capital (Rs Cr)	Cons. Charges (Rs Cr)	Less: NTI (Rs Cr)	Total AFC	Design Energy (In MU)	Indicative Tariff (Rs/kWh)
Karnah	0.00	0.35	0.00	0.57	2.49	0.15	0.00	0.08	3.49	11.36	3.11
USHP-I	0.00	1.20	0.00	1.94	4.97	0.59	0.05	0.89	7.86	106.62	0.74
Lower Jhelum	0.00	10.92	0.00	17.69	12.50	2.98	0.24	4.13	40.20	609.43	0.67
Ganderbal	0.00	0.41	0.00	0.67	3.93	0.36	0.03	0.59	4.82	90.15	0.54
Iqbal Bridge	0.00	0.65	0.00	1.03	2.24	0.20	0.01	0.15	3.98	21.23	1.89
Bazgo	0.00	0.06	0.00	0.09	0.21	0.02	0.00	0.01	0.37	1.09	3.40
Sumoor	0.00	0.02	0.00	0.03	0.11	0.01	0.00	0.00	0.16	0.45	3.58
Hunder	0.00	0.07	0.00	0.12	0.27	0.02	0.00	0.02	0.47	1.77	2.68
Chenani-II	0.00	0.30	0.00	0.49	0.40	0.08	0.00	0.08	1.19	12.00	1.00
Chenani-I	0.00	2.03	0.00	3.30	3.82	0.67	0.05	0.92	8.96	110.02	0.82

Tariff Proposal for Baglihar HEP Stage I

Project Cost and Design Energy of Baglihar HEPs

- 2.54 The Petitioner submitted that the Baglihar HEP Stage I project comprises of the 450 MW Baglihar hydro generating station [Baglihar Hydro] and 68 km 400kV double circuit transmission line from Baglihar to Kishenpur [Baglihar Transmission System] along with two bays at Kishenpur built for evacuation of power generated at the Baglihar hydro generating station. The Baglihar HEP Stage I project was commercially commissioned on 1st April 2009.
- 2.55 The Petitioner has provided the detail of capital cost incurred on the project in this petition. This has been summarised in the Tables below:

Table 39: Detail of Capital Expenditure of Baglihar project

S.No.	Name of the project	Capacity in MW	Capital Expenditure as on 31.03.15 (Rs Cr)	Design Energy (MUs)
1.	Baglihar – Hydro	450	5406.62	2536.07
2.	Baglihar – Transmission system	500 MW for each circuit	168.03	-

- 2.56 The Petitioner submitted that it has filed the petition for approval of tariff for the Baglihar hydro in accordance with provisions of the JKSERC (Terms and Conditions for Determination of Hydro-Generation Tariff) Regulations, 2011 dated April 20, 2011.
- 2.57 The Petitioner submitted that the tariff petition for Baglihar - Transmission System has been filed in accordance with the (Terms and Conditions of Transmission Tariff) Regulation, 2012 of JKSERC.

Norms of Operation

- 2.58 The norms of operation upon which the Petitioner has based the computation of proposed annual fixed charges and proposed tariff for Baglihar hydro and Baglihar Transmission System have been summarised in the tables given below.

Table 40: Norms of operation for Baglihar Hydro Project

No	Particulars	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	1.50% of capital cost	

No	Particulars	Value
	Annual Escalation	4.00%
5.	Depreciation	
	Plant Life	As per regulations
	Residual Value	10%
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation
6.	Working Capital	
	Receivable	2 months of fixed charges
	O & M Expenses	1 month
	Spares for Maintenance	1% of historical cost
	Escalation in Spares Inventory	6%
	Rate of Interest p.a.	13.50% as per PLR of J&K Bank as on 1.4.2011
7.	Initial spares as part of capital cost	1.5%
8.	Return on Equity	14% of normative equity
9.	Equity	30% of net project cost
	Loan	70% of net project cost
10.	Interest on Loan	As per terms and conditions of loan sanctioned
11.	Moratorium	No moratorium after COD

Table 41: Norms of Operation for Baglihar Transmission System

S No	Particulars	Value
1	O&M Expenses	
	Annual O&M Cost of Line	Projected as per JKSERC Transmission tariff Regulations 2012
2	Depreciation	As per Regulation
	Advance Against Depreciation	Equivalent to difference of actual repayment of loan and normal depreciation
3	Working Capital	
	Receivable	2 Month receivables
	O & M Expenses	1 month
	Spares for Maintenance	1% of Historical cost
	Rate of Interest	14.75 % PLR of J&K Bank as on 1.4.2013
4	Return on Equity	15.50% of normative equity
5	Equity	30% of net project cost
	Loan	70% of net project cost
6	Interest	Weighted Average
7	Moratorium	No moratorium after COD

Interest on Loan

2.59 The Petitioner has submitted that details of loan liabilities, rate of interest thereon and moratorium period for Baglihar HEP have been provided in the petition. Total interest on loans has been worked out as per Regulation 22 of JKSERC (Hydro Generation

Tariff) Regulations, 2011 for the year 2015-16 for Baglihar-Hydro and as per JKSERC (Transmission Tariff) Regulations 2011 for Baglihar-Transmission system.

2.60 The same has been summarized in the table given below.

Table 42: Proposed Interest on Loan for Baglihar HEP for FY 2015-16 (Rs Cr)

Particulars	Baglihar- Hydro	Baglihar Transmission System
Net Cost	5406.61	168.03
Equity 30% for tariff purpose	1621.98	50.41
Debt + Subsidy (70% of the net cost)	3784.63	117.62
Subsidy	539.29	16.71
Debt for Tariff purpose	3245.33	100.92
Loan re-paid during earlier years	1874.73	60.54
Loan at the beginning of the year	1370.60	40.37
Repayment of loan (Normal depreciation + AAD)	324.53	10.09
Loan at the end of the year	1046.07	30.28
Average of the loan	1208.34	35.32
Rate of Interest on loan	11.53%	11.53%
Interest on the loan	139.32	4.07

Depreciation including advance against depreciation

- 2.61 Depreciation for Baglihar Hydro has been calculated annually based on straight line method over useful life of the assets as per Regulation 23 of JKSERC (Hydro Generation Tariff) Regulations, 2011 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.
- 2.62 Depreciation for Baglihar – Transmission System has been calculated annually based on based on Straight Line Method in accordance with Regulation 4.9 of the (Terms and Conditions of Transmission Tariff) Regulation, 2012 of JKSERC for Baglihar Transmission system.
- 2.63 Details of depreciation proposed for Baglihar Hydro and Baglihar Transmission System have been summarized in the table below:

Table 43: Proposed depreciation for Baglihar HEP for FY 2015-16 (Rs Cr)

Particulars	Baglihar Hydro	Baglihar Transmission System
Depreciation	142.30	4.44

- 2.64 The Petitioner has submitted that in addition to allowable depreciation, JKSPDC is also entitled to advance against depreciation (AAD) as per Regulation 24 of JKSERC (Hydro Generation Tariff) Regulations 2011 and has been considered as per the formula – ‘Advance against depreciation = annual repayment of loan – normal depreciation’.
- 2.65 The Petitioner has proposed advance against depreciation for Baglihar Hydro and Baglihar Transmission System. The same has been summarized in the table given below.

Table 44: Proposed advance against depreciation for Baglihar HEP for FY 2015-16 (Rs Cr)

Particulars	Baglihar-Hydro	Baglihar Transmission System
Total Normative Loan Amount	3245.33	100.92
Annual Repayment of Loan 1/10th	324.53	10.09
Normal Depreciation for full year	142.30	4.44
Advance Against Depreciation	182.23	5.65

Return on Equity

- 2.66 The Petitioner has proposed Return on Equity as per Regulation 25 JKSERC (Hydro Generation Tariff) Regulations, 2011 for Baglihar Hydro. Return on Equity has been considered at the rate of 14% per annum for the hydro power station.
- 2.67 The Petitioner has proposed Return on Equity as per Regulation 4.10 of the JKSERC (Transmission Tariff) Regulations, 2012 for Baglihar transmission system. Return on Equity has been considered at the rate of 15.50% per annum for the transmission system. The following table provides a summary of return on equity proposed by the Petitioner.

Table 45: Proposed return on equity for Baglihar HEP and Transmission system for FY 2015-16 (Rs Cr)

Particulars	Baglihar-Hydro	Baglihar Transmission System
Net cost of the Project	5406.61	168.03
Total normative Equity 30% of the Project Cost	1621.98	50.41
Rate of Return on Equity	14.00%	15.50%
Return on Equity	227.07	7.81

Operation & Maintenance Expenses

- 2.68 The Petitioner has submitted that O&M expenses have been calculated as per Regulation 26(2)(b) of JKSERC (Hydro Generation Tariff) Regulation, 2011 taking 1.5% of estimated completion cost for 2009-10 which is the year of Commissioning

of Baglihar HEP and escalated at the rate of 4% per annum for the year 2015-16. The O&M expenses for the year are provided in the table given below.

Table 46: Proposed O&M expenses for Baglihar Hydro for FY 2015-16 (Rs Cr)

Particulars	Baglihar- Hydro
Final estimated completion cost	5513.47
O & M Expenses	1.50%
Annual Escalation in O & M expenses	4.00%
O & M Expenses for the year	103.84

2.69 The Petitioner has submitted that O&M expenses for transmission system have been calculated as per JKSERC (Transmission Tariff Regulation), 2012 and are summarized in the table below.

Table 47: Proposed O&M expenses for Baglihar Transmission System for FY 2015-16 (Rs Cr)

Particulars	Baglihar Transmission System
Final estimated completion cost	170.79
O&M expenses for the year	1.90

Interest on working capital

2.70 The Petitioner has submitted that the requirement of working capital and interest has been computed as per Regulation 27 of the JKSERC (Hydro Generation Tariff) Regulation, 2011. Interest at the rate of 13.50% per annum on working capital has been considered i.e. short term prime lending rate of Jammu & Kashmir Bank as on 1st April 2011. The calculation of working capital and interest is summarized in the table below.

Table 48: Proposed interest on working capital for Baglihar HEP for FY 2015-16 (Rs Cr)

Particulars	Baglihar-Hydro	Baglihar Transmission System
Receivable	137.58	4.13
O & M Expenses	8.65	0.16
Spares	69.61	1.68
Escalation in spares	4.18	0.10
Total Working Capital	220.02	6.07
Working Capital Loan	220.02	6.07
Rate of Interest - PLR of J & K Bank as on 1 April 2011	13.50%	

Particulars	Baglihar-Hydro	Baglihar Transmission System
Rate of Interest - PLR of SBI as on 1 April 2013		14.75%
Interest on working capital	29.70	0.90

Consultancy expenses

- 2.71 The Petitioner has submitted Consultancy charges for Rs.1.71 Cr which have been considered in the AFC of respective HEPs in proportion to the installed capacity in megawatt (MW).
- 2.72 The following table provides the amount of consultancy charges apportioned for Baglihar HEP as per its installed capacity.

Table 49: Apportioned amount of consultancy expenses for Baglihar HEP (Rs Cr)

Name of Power House	Capacity (MW)	Proportionate Consultancy Charges
Baglihar	450.00	0.98

Non-Tariff Income

- 2.73 The Petitioner has projected HEP wise Non-Tariff Income (NTI) for FY 2015-16. The detail of NTI projected for Baglihar HEP is provided in the following table:

Table 50: Projection of Non-Tariff Income for Baglihar HEP (Rs Cr)

Name of Power House	NTI
Baglihar – Hydro	17.18

Annual Fixed Charges and Indicative Tariff Proposed for Baglihar Hydro and Baglihar Transmission System for FY 2015-16

- 2.74 The Petitioner submitted that the annual fixed charges proposed for FY 2015-16 has been calculated by considering the various components of tariff and provisions of applicable regulations.
- 2.75 The following table summarises the AFC and indicative tariff proposed by the Petitioner for FY 2015-16 :

Table 51: Proposed Annual Fixed Charges and Indicative Tariff for Baglihar Hydro and Baglihar Transmission System (Rs Cr) for FY 2015-16

Description	Baglihar Hydro	Baglihar Transmission System
O&M Expenses	103.84	1.90
Interest on Loan	139.32	4.07
Depreciation	324.53	10.09
Advance Against Depreciation (AAD)		
Return on Equity	227.08	7.81
Interest on Working Capital	29.70	0.90
Consultancy Charges	0.98	0.03
Less: NTI	17.18	0.53
Net Annual Fixed Cost	808.27	24.27
Net Saleable Energy (In MU)	2498.03	2498.03
Indicative Tariff (Rs per kWh)	3.235	0.097

Tariff Proposal for Sanjak HEP

Project Cost

2.76 The proposed project cost, installed capacity and design energy are summarized in the table given below.

Table 52: Proposed capital cost and design energy for Sanjak HEP for FY 2015-16

Particulars	Sanjak
Project cost (Rs Cr)	25.29
Installed Capacity (MW)	1.26
Design Energy (MU)	4.46

2.77 Based on the expenditure incurred and the valuation Report, the Petitioner has considered the capital cost for the project as Rs 15.55 Cr.

Interest on Loan Capital

2.78 The Petitioner has submitted details of loan liabilities and rate of interest in respect of Sanjak HEP in the petition.

Table 53: Proposed interest on loan for Sanjak HEP for FY 2015-16 (Rs Cr)

Particulars	Sanjak
Net Cost	15.55
Equity 30% for tariff purpose	4.66

Particulars	Sanjak
Debt + Subsidy (70% of the net cost)	10.88
Subsidy	1.76
Debt for Tariff purpose	9.12
Loan re-paid during earlier years	2.74
Loan at the beginning of the year	6.39
Repayment of loan (Normal depreciation + AAD)	0.91
Loan at the end of the year	5.47
Average of the loan	5.93
Rate of Interest on loan	12.46%
Interest on the loan	0.74

Depreciation including Advance against Depreciation

2.79 The Petitioner has submitted that depreciation has been calculated annually based on straight line method considering the useful life as per JKSERC (Hydro Generation Tariff) Regulations, 2011 as was adopted in the previous petitions. Details of depreciation for the Sanjak HEP are given in the table below.

Table 54: Proposed depreciation for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	Sanjak
Total depreciation for the year	0.41

2.80 In addition to allowable depreciation, the Petitioner has proposed advance against Depreciation (AAD) for Sanjak HEP which has been considered as per the formula 'Advance against Depreciation = Annual Repayment of Loan – Normal Depreciation'.

Table 55: Proposed advance against depreciation for Sanjak HEP for FY 2015-16 (Rs Cr)

Particulars	Sanjak
Total Normative Loan Amount	9.12
Annual Repayment of Loan 1/10th	0.91
Normal Depreciation for full year	0.41
Advance Against Depreciation	0.50

Return on Equity

2.81 The Petitioner has submitted that Return on Equity has been proposed as per provisions under Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. Return on Equity has been considered at the rate of 14% per annum. Details of Return on Equity for summarized in the table below.

Table 56: Proposed return on equity for Sanjak HEP for FY 2015-16 (Rs Cr)

Particulars	Sanjak
Net cost of the Project	15.55
Total normative Equity 30% of the Project Cost	4.67
Rate of Return on Equity	14.00%
Return on Equity	0.65

Operation & Maintenance Expenses

2.82 O&M expenses of Sanjak HEP have been calculated as per provisions under Regulation 26(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly, O&M expenses have been considered at the rate of 1.5% of the capital cost with escalation at the rate 4% per annum.

2.83 The following table summarizes O&M expenses proposed for Sanjak HEP:

Table 57: Proposed O&M expenses for Sanjak HEP for FY 2015-16 (Rs Cr)

Particulars	Sanjak
Final estimated completion cost	25.29
O & M Expenses	1.50%
Annual Escalation in O & M expenses	4.00%
O & M Expenses for the year	0.44

Interest on Working Capital

2.84 The requirement of Working Capital & Interest thereon has been computed as per 'Interest on Working Capital' of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Interest @ 13.50 % per annum on working capital has been considered. This is the Prime Lending Rate (PLR) of Jammu & Kashmir Bank as on 1st April 2011. The calculation of interest on working capital is summarized in the table below.

Table 58: Proposed interest on working capital for Sanjak HEP for FY 2015-16 (Rs Cr)

Particulars	Sanjak
Receivable	0.48
O & M Expenses	0.04
Spares	0.30
Escalation in spares	0.02
Total Working Capital	0.83
Rate of Interest - PLR of J&K Bank as on 1 April 2011	13.50%

Particulars	Sanjak
Interest on working capital	0.11

Consultancy Expenses

2.85 The Petitioner has submitted total consultancy charges for FY 2015-16 as Rs.1.71 Cr which have been apportioned to all the HEPs in proportion to the installed capacity in megawatt (MW).

Non-Tariff Income

2.86 NTI of Rs 0.05 Cr has been projected for Sanjak HEP by the Petitioner.

Annual Fixed Charges and Indicative Tariff Proposed for Sanjak HEP for FY 2015-16

2.87 The Petitioner has submitted Annual Fixed Charges (AFC) and indicative tariff for Sanjak HEP in accordance with JKSERC (Hydro Generation Tariff) Regulations, 2011. The AFC and indicative tariff submitted for approval are given in the table below.

Table 59: Proposed Annual Fixed Charges (Rs Cr) and Indicative Tariff for Sanjak HEP for FY 2015-16

Particulars	Amount
O&M Expenses	0.44
Interest on Loan	0.11
Depreciation	0.91
Advance Against Depreciation (AAD)	0.74
Return on Equity	0.65
Interest on Working Capital	0.12
Consultancy Charges	0.00
Total Annual Fixed Cost	2.86
Less: NTI	0.05
Net Annual Fixed Cost	2.81
Net Saleable Energy (In MU)	4.42
Indicative Tariff (Rs per kWh)	6.36

Tariff Proposal for Stakna HEP

Project Cost

2.88 The approved project cost, installed capacity and design energy are summarized in the table given below.

Table 60: Admitted cost and approved design energy for Stakna HEP

Particulars	Stakna
Admitted cost (Rs Cr)	12.65
Installed Capacity (MW)	4
Design Energy (MU)	19.52

Interest on Loan Capital

2.89 The Petitioner has submitted that no interest on loan has been considered.

Depreciation including Advance against Depreciation

2.90 The Petitioner has submitted that depreciation has been calculated annually based on straight line method considering the useful life as per JKSERC (Hydro Generation Tariff) Regulations, 2011 as was adopted in the previous petitions. Details of depreciation for the Stakna HEP are given in the table below.

Table 61: Proposed depreciation for Stakna HEP for FY 2015-16 (Rs Cr)

Name of HEP	Stakna
Total depreciation for the year	0.21

2.91 The Petitioner has submitted that Advanced Against Depreciation has been considered as zero.

Return on Equity

2.92 The Petitioner has submitted that Return on Equity has been proposed as per provisions under Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. Return on Equity has been considered at the rate of 14% per annum.

2.93 Details of Return on Equity are summarized in the table below.

Table 62: Proposed return on equity for Stakna HEP for FY 2015-16 (Rs Cr)

Particulars	Stakna
Net cost of the Project	12.65
Total normative Equity 30% of the Project Cost	3.80
Rate of Return on Equity	14.00%
Return on Equity	0.53

Operation & Maintenance Expenses

2.94 O&M expenses of Stakna HEP have been calculated as per provisions under Regulation 26(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011. Accordingly, O&M expenses have been considered at the rate of 1.5% of the capital cost with escalation at the rate 4% per annum. The following table summarizes O&M expenses proposed for Stakna HEP:

Table 63: Proposed O&M expenses for Stakna HEP for FY 2015-16 (Rs Cr)

Particulars	Stakna
Final estimated completion cost	12.65
O & M Expenses	1.50%
Annual Escalation in O & M expenses	4.00%
O & M Expenses for the year	0.21

Interest on Working Capital

2.95 The requirement of Working Capital & Interest thereon has been computed as per 'Interest on Working Capital' of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Interest @ 13.50 % per annum on working capital has been considered. This is the Prime Lending Rate (PLR) of Jammu & Kashmir Bank as on 1 April 2011. The calculation of interest on working capital is summarized in the table below.

Table 64: Proposed interest on working capital for Stakna HEP for FY 2015-16 (Rs Cr)

Particulars	Stakna
Receivable	0.17
O & M Expenses	0.02
Spares	0.14
Escalation in spares	0.01
Total Working Capital	0.34
Working Capital Loan	0.34
Rate of Interest - PLR of J&K Bank as on 1 April 2011	13.50%
Interest on working capital	0.05

Consultancy Expenses

2.96 The Petitioner has submitted Consultancy charges for Rs.1.71 Cr have been considered in the AFC of respective HEPs in proportion to the installed capacity in megawatt (MW).

2.97 The Petitioner has apportioned Rs 0.01 Cr as Consultancy charges towards Stakna HEP.

Non-Tariff Income

2.98 NTI of Rs 0.16 Crore has been projected for Stakna HEP by the Petitioner for FY 2015-16.

Annual Fixed Charges and Indicative Tariff Proposed for Stakna HEP for FY 2015-16

2.99 The Petitioner has submitted Annual Fixed Charges (AFC) and indicative tariff for Stakna HEP in accordance with JKSERC (Hydro Generation Tariff) Regulations, 2011. The AFC and indicative tariff submitted for approval are given in the table below.

Table 65: Proposed Annual Fixed Charges and Indicative Tariff for Stakna HEP for FY 2015-16

Particulars	Amount
O&M Expenses	0.21
Interest on Loan	0.00
Depreciation	0.21
Advance Against Depreciation (AAD)	0.00
Return on Equity	0.53
Interest on Working Capital	0.05
Consultancy Charges	0.01
Total Annual Fixed Cost	1.01
Less NTI	0.16
Net Annual Fixed Cost	0.85
Net Saleable Energy (In MU)	19.33
Indicative Tariff (Rs per kWh)	0.44

Tariff Proposal for Gas Based Thermal Generating Stations (for reimbursement of O&M expenses by JKPDD)

2.100 The Petitioner submitted that it operates two gas based thermal generating stations with a total installed capacity of 175 MW. These gas turbines are operated only in situations of acute emergency on the request of the JKPDD.

2.101 The Petitioner further submitted that in order to maintain the gas turbines in running condition, staff has to be deployed and expenses on account of operation and maintenance are also incurred.

2.102 As per the Tariff Order for FY 2014-15, the Hon'ble Commission directed Principal Secretary, JKPDD to convene a meeting of concerned parties viz. JKSPDC & JKPDD for early resolution of this issue. JKSPDC vide letter dated 11.04.2014 once again reminded JKPDD for early reimbursement of O&M expenses of the gas power

station. No response has been received yet. The Petitioner submitted that direction may kindly be given to JKPDD for early reimbursement of O&M expenses of the gas turbines.

- 2.103 The Petitioner submitted the details of the O&M expenses that should be reimbursed to them on account of operation and maintenance of these gas turbines.

Table 66: Proposed reimbursement of O&M expenses for Gas Turbines (Rs Cr)

Description	Amount
Salary and other administrative expenses	2.57
Repair and maintenance	0.15
Total	2.72

Mohra Receiving Station

- 2.104 The Petitioner submitted that the Hon'ble Commission in Tariff Order for the FY 2014-15 directed JKSPDC to pursue the matter of transfer of Mohra station with JKPDD.
- 2.105 The Petitioner further submitted that JKSPDC has been requesting JKPDD to take over the Mohra station as per the direction of the Hon'ble Commission but in spite of repeated requests, the T&D utility (PDD) has not taken over the Receiving Station till date.
- 2.106 The Petitioner requested the Hon'ble Commission to pass suitable directives to the T&D utility (PDD).

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

RM&U of projects

- 2.107 The Petitioner submitted that the Board of Directors of JKSPDC has approved programme for taking up Renovation & Modernization of seven HEPs at a cost of ` Rs 208.96 Cr.
- 2.108 The Petitioner submitted that the State Government vide its letter dated 14.01.2008 had also approved taking of RMU of seven major HEPs. Loan assistance of Rs 133.95 Cr had been tied up with Power Finance Corporation out of which Rs 32.93 Cr had already been availed. Further, Ministry of New & Renewable Energy (MNRE) had also approved subsidy of Rs 32.94 Cr for the six HEPs with details as under:

Table 67: Details of financing and subsidy for RMU of HEPs (Rs Cr)

Name of the HEP	Envisaged completion cost	Debt from PFC	Subsidy from MNRE	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

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

Table 68: Details of expenditure approved and incurred for RMU of HEPs (Rs Cr)

Name of the HEP	Approved cost	Revised estimated cost	Cumulative expenditure up to 3/2014
LJHP	101.30	117.05	101.29
Chenani-I	39.14	59.38	10.36
USHP-I	25.00	35.00	23.04
Ganderbal	39.3	39.30	25.80
Sumoor	1.13	1.50	0.56
Hunder	1.77	2.51	1.19
Bazgo	1.32	2.41	1.18
Total	208.96	257.15	163.42

2.110 The Petitioner further submitted that after full completion of RMU works there will be increase in annual generation from these HEPs. RMU shall ensure that these old power stations operate for additional period without any major overhauling requirements.

2.111 The 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:

Table 69: Detail of likely increase in generation after RMU of HEPs

Name of the HEP	Installed Capacity	Annual generation (in MUs)	Annual increase in generation (in MUs)	Expected generation after RMU (in MUs)
LJHP	105	412.1	81.6	493.7

Name of the HEP	Installed Capacity	Annual generation (in MUs)	Annual increase in generation (in MUs)	Expected generation after RMU (in MUs)
USHP-I	22.6	89.36	13.24	102.6
Ganderbal	15	22.33	63.64	85.97
Chennani -1	23.3	71.32	33.85	105.97

2.112 The Petitioner also submitted that RMU of Sumoor, Hunder, Bazgo, Karnah , Mohra, Iqbal and Stakna had also been taken up and the capacity of Haftal was being augmented from 1MW to 2 MW.

2.113 The Petitioner further submitted that as the works were only partially completed, the additional capitalization had not been claimed in the tariff petition and that the details shall be submitted on completion of works.

Stabilization

2.114 The Petitioner submitted the details of project, amount approved for additional capital expenditure and actual expenditure for the years FY 2013-14:

Table 70: Details of additional capital expenditure in FY 2013-14 (Rs Cr)

Name of the HEP	FY 2013-14	
	Approved Provision	Expenditure incurred
Sewa-III	0.75	0.74
Chennani-II	0.32	0.10
Chennani-III	3.43	0.00
USHP-II	28.36	10.65
Karnah	0.50	0.41
Igo Mercellong	0.29	0.29
Stakna	0.11	0.00
Iqbal	0.50	0.00
Haftal	0.18	0.18
Marpachoo	0.10	0.07
Total	34.54	12.44

2.115 The Petitioner submitted that impact of these works both in respect of RMU and stabilization in terms of improvement in generation/Plant Load Factor shall be evaluated on completion of RMU activities and submitted to the Hon'ble Commission as per the Directive in the Tariff Order dated 16.07.2011 and that no additional capitalization had been sought with respect to these works as these works were still ongoing.

Arrears of energy charges with regards to the bills raised in accordance with the Tariff Order /PPA

2.116 The Petitioner submitted that the Power Development Department was irregular in making payments which has resulted in accumulation of huge arrears thereby impacting the cash flows and financial health of the Petitioner. The total arrears on account of Energy Charges up to 31.03.2014 were Rs. 1987.37 Cr.

2.117 The Petitioner further submitted that the BoDs of JKSPDC in its 70th meeting has resolved as under:-

“JKSPDC to take required action to make the necessary adjustments in the books of accounts for setting off the receivable outstanding as on 31.3.2014 from JKPDD amounting Rs1987.37 crore with the plan funds received from the state Government as on March ending, 2014 amounting Rs 3406.84 crore and conversion of remaining grants of Rs 1419.47 crore into the State equity contribution to the JKSPDC. The earlier resolutions of the BOD meetings on the issue shall stand modified to this extent. However, if the JKPDD repays the outstanding arrears proposed for adjustment in cash to the Corporation in future, the same adjustment treatment shall be reversed.”

2.118 However, the Board Resolution has not been operationalised so far, as the Finance Department, GoJK has asked for further discussion in the matter.

Water Usage Charges

2.119 The Petitioner submitted that the State Water Resource Regulatory Authority had fixed Water Usage Charges at the rate of 25 paise per cubic metre of water used for generation of hydro-electric power vide Order No. WRRRA/01/2011 dated 1st February 2011.

2.120 The Petitioner submitted that in the Tariff Order for FY 2014-15, the Hon'ble Commission had allowed the JKSPDC to claim the reimbursement of water usage charges from PDD. However the PDD was yet to pay the Water usage charges as per the directions of the Hon'ble Commission in the Tariff order for the year FY 2014-15.

2.121 The Petitioner submitted that the water usage charges have now been revised by the J&K State Water Resources Regulatory Authority vide its Order No. 89/JKSWRRA of 2014 dated 22nd December 2014 and the water usage charges have been accordingly estimated (as per design energy) by the Petitioner as Rs. 318.88 Cr for the years 2015 and 2016 as against Rs. 400.99 Cr according to previous rates notified by Authority in year 2011. The Project wise details of the water usage charges submitted by the Petitioner are enclosed at Appendix-C.

Taxes and Duties

2.122 The Petitioner submitted that it had paid income tax amounting to Rs. 29,87,45,745/- during the FY 2014-15. As income tax is a pass-through, the amount paid towards income tax i.e. Rs 56.25 Cr may be approved for reimbursement from PDD.

Prayer of the Petitioner

2.123 The Petitioner prayed to the Commission as under:

- (a) Approve the Annual Fixed Charges as mentioned in Para 7A, B, C, D & E of the Tariff Petition for FY 2015-16.
- (b) Pass necessary orders in the light of additional submissions made in Para 7F, 8, 10, 11 & 12 of the Tariff Petition for FY 2015-16.
- (c) Approve the reimbursement of Tariff Petition filing fee.
- (d) Pass such other and further order(s) as are deemed fit and proper in the facts and circumstances of the case.

CHAPTER 3 - PUBLIC CONSULTATION PROCESS

- 3.1 After the admittance of the Petition filed by the Petitioner pertaining to determination of AFC and tariff for FY 2015-16, the Commission directed the Petitioner to make available copies of the petition to the general public and invite comments/ objections from them on the subject matter of the petition.
- 3.2 The Commission, vide letter No. JKSERC/Secy/1453 dated 6th January 2015, directed the Petitioner to publish gist of its Petition and tariff proposal as Public Notice in newspapers in English and local languages as per the requirement of Regulation 48(2), Chapter 5 of the J&KSERC (Conduct of Business) Regulations 2005 and invite comments, and suggestions from consumers and other objectors on the petition.
- 3.3 As directed by the Commission, the Petitioner published Public Notice in some of the widely read English, Hindi and Urdu newspapers indicating the salient features of its petition and inviting objections and suggestions from the consumers and other objectors. The public notice appeared in the various newspapers as per the details tabulated below:

Table 71: Details of publication of notice inviting public response in state newspapers

Newspaper	City of publication	Date of publication
Daily Excelsior	Jammu	09.01.2015
Daily Kashmir Times	Jammu	09.01.2015
Daily Amar Ujalla	Jammu	09.01.2015
Daily State Times	Jammu	09.01.2015
Daily Rising Kashmir	Srinagar	10.01.2015
Daily Greater Kashmir	Srinagar	10.01.2015
Daily Srinagar Times	Srinagar	10.01.2015
Daily Aftab	Srinagar	10.01.2015

- 3.4 The copies of the public notice and the Tariff Petition were made available on the website of the Commission as well as on the Petitioner's website and at its office address mentioned in the public notice. The last date for submitting the comments/ objections on AFC and Tariff Petition was 30th January 2015.
- 3.5 The public notice advised the respondents to submit their objections, written either in English, Hindi or Urdu to the Commission with a copy to the Petitioner. The respondents were also given the option to be heard in person during the public hearings conducted by the Commission.
- 3.6 The Commission received four written objections from the stakeholders. The Petitioner provided written replies to all these objections and submitted a copy of the same to the Commission. The objections and the replies have been duly considered by the Commission. The list of stakeholder who made written submissions has been attached at Annexure 2 of this Order.

- 3.7 The Commission held public hearings at Jammu on 7th January 2015 and at Srinagar on 10th February 2015, to discuss the matters pertaining to the Petition filed by the Petitioner for determination of AFC and tariff for FY 2015-16.
- 3.8 The public hearings enabled the stakeholders to voice their concerns and put forth their objections to the submissions made by the Petitioner. Further, it provided the Petitioner with an opportunity to present its case and to respond to the objections raised by various objectors. The Commission allowed stakeholders who had not submitted written objections earlier, to also present their views, objections and suggestions during the public hearings. The list of stakeholders who attended the public hearings held in Jammu and Srinagar is provided in Annexure 3.
- 3.9 The issues, concerns and objections raised by various stakeholders through their written or verbal representations have been taken into consideration by the Commission. The matters raised and discussed have accordingly been summarized in this chapter and the Petitioner's response upon such matters and the view taken by the Commission are detailed below.

Filing of Petition as per norms

Public Comments/Suggestions

- 3.10 The Objector submitted that Petitioner should provide revenue requirement strictly as per provisions of the Tariff Regulations and that no deviation from norms should be allowed to the Petitioner.

Petitioner's Response

- 3.11 The Petitioner submitted that tariff petition for FY 2015-16 has been filed in accordance with the JKSERC (Terms and conditions of determination of (Hydro Generation Tariff) Regulations, 2011, JKSERC (Terms and conditions of determination of transmission tariff) Regulations, 2012 and JKSERC (conduct of business) Regulations, 2005.

Commission's View

- 3.12 The determination and approval of annual fixed charges and tariff for FY 2015-16 is being done strictly in accordance with the applicable Regulations prescribed in this regard. The Petition filed by the Petitioner has been examined in the light of the applicable JKSERC (Hydro Generation Tariff) Regulations, 2011 in respect of generation tariff and the applicable JKSERC (Transmission Tariff) Regulations, 2012 in respect of the transmission tariff for Baglihar.

Compliance of Directives

Public Comments/Suggestions

- 3.13 The Objector submitted that the JKSPDC has not complied in letter and spirit with the directives issued by the Hon'ble Commission in previous Tariff Orders. The Objector further stated that the compliance report submitted by the JKSPDC is vague.
- 3.14 The Objector requested the Hon'ble Commission to take strict action against JKSPDC for noncompliance of its Directives.

Petitioner's Response

- 3.15 The Petitioner submitted that it has made efforts to comply with all the Directives issued by the Hon'ble Commission from time to time. The report on compliance of directives has been furnished to the Hon'ble Commission in this regard.

Commission's View

- 3.16 The Commission appreciates the efforts of the Petitioner towards compliance of directives. However, the Commission has observed that certain Directives have been complied with only partially. The implementation of the Directives is not beyond the control of the Petitioner and the Petitioner is required to comply with the same in a time bound manner.
- 3.17 The Commission again directs the Petitioner to ensure timely compliance to Directives as specified in Chapter 11 of this Tariff Order and in case not carried out in a time bound manner, the Commission would be left with no option but to initiate penal action wherever necessary.

Capital Cost

Public Comments/Suggestions

- 3.18 The Objector stated that the Petitioner should incur capital expenditure in a prudent and reasonable manner. The capital cost of some of the projects of the Petitioner is much higher than similar projects in other parts of India. In many cases, the capital cost claimed is in the range of 7 to 12 Cr per MW which is higher than the generally accepted norms for generating stations.
- 3.19 The Objector further submitted that the Hon'ble Commission may verify the capital costs of the projects and allow only such costs which are prudent in nature and disallow the cost on account of inefficiencies on the part of the Petitioner.

Petitioner's Response

- 3.20 The Petitioner submitted that the tariff Petition has been filed on the basis of the Capital Cost already approved by the Hon'ble Commission except for the capital cost of Baglihar HEP.

- 3.21 In case of Baglihar HEP, the Petitioner submitted that the Tariff Proposal is based on the revised capital cost of the HEP. The Hon'ble Commission in its Tariff Order dated 16th June 2011 had directed JKSPDC to get the revised cost of BHEP-I approved by Central Electricity Authority (CEA). The details of the revised cost along with the necessary documents were submitted to CEA for approval. JKSPDC has taken up the matter with CEA vide letters no CE/BHEP/2609-10 dated 20th October 2011, PDC/P-45/1820-21 dated 13th June 2012, CEC/BHEP/W-34/2821-22 dated 10th October 2012 and CEC/BHEP/2279-81 dated 3rd September 2013. However, the CEA has not responded favourably as the organization does not have policy of approving the revised cost of the project. Accordingly, JKSPDC has submitted to the Hon'ble Commission that a Consultant may be engaged for validation of the capital expenditure for which the Petitioner shall bear the necessary charges.
- 3.22 The Petitioner further submitted that the capital cost per MW of each hydro station differs from project to project and all hydro projects are unique in terms of project layout, type of components, location and geology. Thus, it's not prudent to compare the capital cost of different hydro projects in different parts of the country.

Commission's Views

- 3.23 The capital costs of all projects have been/ are being approved only after conducting a prudence check on the submissions of the costs. Any cost that is considered unreasonable, excessive or prohibitive is excluded from the cost components approved for the project.

Grants from State/ Central Government

Public Comments/Suggestions

- 3.24 The Objector stated that the Petitioner gets substantial grants and aid from the State Government as well as from the Central Government. These grants and aid ought to be deducted from the total project cost of the Petitioner and only such expenditure which is from the internal resources of the Petitioner or loans taken from banks and financial institutions ought to be allowed to be serviced in the tariff of the Petitioner.
- 3.25 The Objector further submitted that JKSPDC has considered subsidy as part of the normative debt, for calculation of Return on Equity for Baghliar – Hydro and Baghliar- Transmission system which is not in accordance with the Regulations. The amount of subsidy has to be reduced from the project cost itself as per Regulations. The net cost of the project after subsidy/ grants has to be considered for the purpose of calculation of Normative Equity and Normative debt.

Petitioner's Response

- 3.26 The Petitioner submitted that any Subsidy from the State or Central Government has been accounted for while estimating the project cost.

- 3.27 The Petitioner further submitted that the interest on loan has been calculated in accordance with the Regulation 22 of JKSERC (Terms and Conditions for determination of Hydro Generation Tariff) Regulations, 2011.
- 3.28 The Petitioner also submitted that out of the total expenditure incurred on BHEP-I, Rs 2253 Cr has been raised as debt and the balance as equity which includes subsidy of Rs 539.29 Cr. Although the equity component is more than 30%, the Petitioner has claimed ROE on only 30% of the capital cost and rest of the equity has been considered as normative loan as per the Regulation 18 of the JKSERC Regulations 2011.

Commission's Views

- 3.29 The Commission agrees with the submission made by the Objector and affirms that subsidy or grant given by the State/ Central Government to the Petitioner towards any project is deducted from the capital cost of the project and such cost in turn forms the basis for computation of other components of tariff such as interest on loan and return on equity.

Depreciation including Advance against Depreciation

Public Comments/Suggestions

- 3.30 The Objector opined that the JKSPDC has claimed depreciation in violation of the provisions of Tariff Regulations. As per the Regulation 23(1) of the JKSERC (Terms and Conditions for determination of Hydro Generation Tariff) Regulations, 2011, value for the purpose of depreciation shall be the historical cost of the asset.
- 3.31 The State Govt. in 1999 vide order No. PDD/AC/11/99 dated 29 Oct 1999 transferred 10 Old HEP's to the Petitioner free of cost. The Petitioner had not paid any price for purchase of these HEPs and as such the historical cost of such projects is zero. Thus no amount of depreciation should be allowed on these 10 Old HEP's.
- 3.32 The Objector further submitted that there was no validity for claiming depreciation on projects such as USHP-I, Ganderbal and Chenani-I as these projects had already passed their useful life of 35 years.
- 3.33 The Objector pointed out that the Regulation 23(3) of the Tariff Regulations inter-alia provides that:
- “On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset”.*
- 3.34 The Objector submitted that the Petitioner has not considered the repayment of entire loan allowed on normative basis while calculating depreciation, particularly, in case of such 10 old HEP's. In accordance with Regulation 23 of the Tariff Regulations, the

remaining depreciable value for those projects which have crossed 10 years from the date of commercial operations remains only 20% of the cost of the project.

- 3.35 The Objector also submitted that the Petitioner should submit the Order No. PDD/AC/11/99 dated 29th October 1999 vide which the Government transferred 10 old HEPs to the Petitioner and also the price the Petitioner paid to the Government in lieu of the 10 HEPs.

Petitioner's Response

- 3.36 The Petitioner submitted that the Depreciation has been calculated on the capital cost of the HEP as approved by the Commission in previous Tariff Orders.
- 3.37 The Petitioner further submitted that no loan / repayment has been considered for 10 old HEPs, accordingly no AAD has been claimed for the same. Hence, the provision of spreading of the depreciable value over the balance useful life of the asset is not applicable in case of the 10 old HEPs.
- 3.38 The Petitioner has also submitted the requisite Order No. PDD/AC/11/99 dated 29th October 1999 vide which the Government transferred 10 old HEPs to the Petitioner. The copy of the same has also been submitted to the Objector.

Commission's View

- 3.39 The Commission states that depreciation and advance against depreciation have been allowed to the Petitioner in accordance with provisions of Regulation 23 and 24 of the JKSERC (Hydro Generation Tariff) Regulations, 2011 and worked out only on the balance useful life of assets.

Financing of loans

Public Comments/Suggestions

- 3.40 The Objector stated that the entire payment of interest on loans, depreciation and advance against depreciation need to be considered in the light of the fact that many of these loans relate to the projects which had been set up during the time when the activities were undertaken by the Power Development Department of the Government of Jammu and Kashmir i.e. as a Department of the Government and prior to the re-organization and vesting of the utilities in the Petitioner.
- 3.41 The Objector submitted that depreciation should be allowed only if the capital cost had been incurred properly and not due to any grants, aids or on account of any default on the part of the State Government in providing money to the Power Utilities.
- 3.42 The Objector further submitted that the Petitioner has not provided the information as regards to the cumulative repayment of loan up to the FY 2015-16 and the cumulative depreciation up to the FY 2015-16.

- 3.43 The Objector requested the Commission to look into the matter and direct the Petitioner to provide the relevant information and put the same to prudence check and restrict the amount of depreciation strictly in accordance with regulations.

Petitioner's Response

- 3.44 The Petitioner submitted that the Advance Against Depreciation as claimed in the Petition for 7 projects out of total 21 projects is in accordance with the Regulation 24 of the JKSERC (Hydro Generation Tariff) Regulations, 2011 dated 20th April 2011.
- 3.45 The Petitioner further submitted that the details of loan repayment and depreciation considered for calculation of AAD had been provided as part of its Tariff Petition in Annexure-F8C (I),(II),(III) to the Petition.

Commission's View

- 3.46 The Commission states that interest on loan has been allowed in accordance with Regulation 18 and Regulation 22 of the JKSERC Hydro Generation Tariff Regulations, 2011.
- 3.47 The Commission states that depreciation and advance against depreciation have been allowed to the Petitioner in accordance with provisions of Regulation 23 and 24 of the JKSERC (Hydro Generation Tariff) Regulations, 2011.

Consultancy Charges

Public Comments/Suggestions

- 3.48 The Objectors submitted that the Petitioner has claimed a substantial amount on account of consultancy charges to be recovered through tariff. The Petitioner should provide full details of such expenditure, the rationale behind it and justification of the expenditure. The Petitioner has claimed consultancy charges for the purpose of corporate restructuring, double entry system and preparation of ARR and tariff petition. Such expenses are in the nature of administrative overhead expenses and form part of the O&M expenses as defined in Regulation 3(20) of the said Regulations.
- 3.49 The Objector also stated that such expenses cannot be allowed separately to be recovered in the tariff as there is no provision in the Regulations to allow any expenses other than provided in the Regulations.

Petitioner's Response

- 3.50 The Petitioner submitted that the details as well as justification for expenditure claimed as consultancy charges have already been submitted to the Commission.

- 3.51 The Petitioner also submitted that the overheads are part of O&M expenses which do not fall in the defined sub activities i.e. manpower, repairs, spares, consumables and insurance. The Petitioner further clarified that the cost of this account are not of recurring nature but some consultancies approved under ERP were required to be implemented over a period of time as per the approved action plan.

Commission's View

- 3.52 The Commission accepts the submission made by the Petitioner that these charges do not form part of the overheads and thus should be allowed separately. However, in absence of audited data for these charges, the Commission has only provisionally allowed the consultancy charges as submitted by the Petitioner and same shall be tried up on the basis of actual expenditure incurred under this head vis-a-vis objectives/ targets achieved within the approved timeline of action plan.

Return on Equity

Public Comments/Suggestions

- 3.53 The objectors stated that the Government of Jammu & Kashmir had transferred 10 old HEPs to the JKSPDC vide order No. PDD/AC/11/99 dated 29th October 1999. JKSPDC has not made any capital investment in these projects; therefore they should not be allowed to charge RoE at the rate of 14% on the normative equity base (which is equivalent to 30% of capital cost).
- 3.54 The objectors requested the Commission to allow the utility to charge RoE only on actual equity investment by JKSPDC where such investment is less than 30% and allow normative equity of 30% only in cases where the equity portion is equal to or more than 30%. The plan assistance, grant or subsidy provided by the government should not be included in equity.

Petitioner's Response

- 3.55 The Petitioner has submitted that the Return on Equity has been calculated in accordance with the Regulation 25 of JKSERC (Terms & Conditions of determination of hydro generation tariff) Regulations, 2011 dated 20th April, 2011 and in line with the previous Tariff Orders of the Hon'ble Commission.
- 3.56 The Petitioner has also submitted that the J&K Electricity Act, 2010 allows for the transfer of the value of assets transferred by government to company(s) / corporation(s) including generating companies to be determined on the basis of revenue potential of such assets.

Commission's View

- 3.57 The Commission states that return on equity has been allowed to the Petitioner in accordance with provisions of Regulation 18 and Regulation 25 of the JKSERC (Hydro Generation Tariff) Regulations, 2011
- 3.58 Subsidy and grants provided by the Government have been excluded from the project cost to arrive at the net cost. Normative equity to the tune of 30% of such net cost is considered for allowing return on equity to the Petitioner.

Interest on Loan**Public Comments/Suggestions**

- 3.59 The Objectors opined that Petitioner has computed interest on loan in contravention with provisions of the Regulations. Further, the Petitioner has not clarified whether the loan for financing of the particular project as on date of commencement of commercial operation was above 70% of the project cost. Normative provisions apply only if the loan taken for project was 70% or more than the project cost on the COD. The Commission was requested to allow interest on loan in accordance with the provisions of Regulations and after prudence check.
- 3.60 The Objector requested the Commission to direct the Petitioner to provide details of steps taken to swap the loan, total loan swapped and benefits resulting there from and submitted that the Petitioner should not be allowed to make any profit on interest on loan.

Petitioner's Response

- 3.61 The Petitioner has submitted that the Interest on Loan has been calculated in accordance with the Regulations 18 & 22 of JKSERC (Terms & conditions of determination of hydro generation tariff) Regulations, 2011 dated 20th April, 2011.
- 3.62 The Petitioner further submitted that it has been making all efforts to reduce the burden of interest cost by availing loans at competitive terms. The Petitioner has swapped loan amounting to Rs. 103.55 Cr with the estimated savings on account of interest over the tenure of the loan being Rs. 8.99 Cr. The copy of the benefits accrued from swapping of loans has been provided to the Commission as well as the Objector.

Commission's View

- 3.63 The Commission states that interest on loan has been allowed to the Petitioner in accordance with provisions of Regulation 18 and Regulation 22 of the JKSERC (Hydro Generation Tariff) Regulations, 2011.

- 3.64 Further, as per the Regulation 22(4) of the JKSERC (Hydro Generation Tariff) Regulations, 2011 any benefit arising through swapping of loans has to be passed on to the beneficiaries. The relevant Regulation has been reproduced below:

“The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries”

- 3.65 The Commission has scrutinised the submission of the Petitioner with respect to swapping of loans for Baglihar HEP and associated Transmission System. The Commission has dealt with this matter while approving the interest and finance charges for Baglihar HEP and associated Transmission System. The Commission appreciates the proactive steps taken by the Petitioner for reducing the interest burden.

Interest on Working Capital

Public Comments/Suggestions

- 3.66 The Objector stated that the Petitioner has not computed working capital in accordance to the Regulation 27 of the JKSERC (Hydro Generation Tariff), 2011. The objector stated that the Petitioner has computed interest on working capital @13.50% as PLR as on 1st April 2011 which is not relevant for FY 2015-16. The Objector also stated that the concept of PLR has been replaced by the Base Rate concept and had requested the Commission to consider the same.
- 3.67 The Hon'ble Commission is requested for prudence check and allow the rate of interest as per Regulation 27 of the said Regulations.

Petitioner's Response

- 3.68 The Petitioner submitted that the Interest on Working Capital has been calculated in accordance with the Regulation 27 (2) of JKSERC (Hydro Generation Tariff) Regulations, 2011.

Commission's View

- 3.69 The Commission states that interest on working capital has been allowed in accordance with Regulation 27 (2) of JKSERC (Hydro Generation Tariff) Regulations, 2011, which states that:

“Rate of interest on working capital shall be the short-term Prime Lending Rate of Jammu and Kashmir Bank as on 1.4.2011 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later.”

- 3.70 The Commission is aware of this issue and appreciates the concern of the objector regarding the linking of interest cost with the prevalent base rate system. The Commission would like to state that stakeholders may submit a petition for amendment of Regulations for proposing changes to the Regulations.

Income Tax

Public Comments/Suggestions

- 3.71 The Objector stated that the Petitioner has not provided the requisite details while claiming Tax expenses i.e. whether it relates to core business, certification of Statutory Auditors, Tax Holiday as required under Regulation 7 of the said Regulations and has not claimed income tax in accordance with Regulation 7.
- 3.72 The Objector requested the Commission to direct the Petitioner to make public the exact nature of tax liability and disallow the same if the tax liability is other than core business of power generation.

Petitioner's Response

- 3.73 The Petitioner submitted that the Income Tax has been calculated in accordance with the applicable provisions of Income Tax Act.
- 3.74 The Petitioner also submitted that the tax paid challans have been submitted along with the Petition. Further, sub Regulation (2) of Regulation 7 provides that under-recoveries or over-recoveries of tax on income shall be adjusted on the basis of income tax assessment under Income Tax Act, 1961.

Commission's View

- 3.75 The Commission is of the view that only income tax related to the core business of the utility shall be allowed as pass through in tariff and be recovered from the beneficiaries as provided in Regulation 7 (1) of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Thus it is required that the Petitioner submits separate details of income tax pertaining to the core business of the utility.
- 3.76 Further for purposes of recovery of income tax from beneficiaries, the Petitioner has to submit separate details of income tax apportioned to each project/ station as provided in Regulation 7 of the above-mentioned regulations and same has been reproduced below:

"Tax on Income:-

(1) Tax on the income streams of the utility from its core business shall be computed as an expense and shall be recovered from the beneficiaries.

(2) Any under-recoveries or over-recoveries of tax on income shall be adjusted every year on the basis of income tax assessment under the Income Tax Act, 1961 as certified by the statutory Auditors:

Provided further that the generating station-wise profit before tax as estimated for a year in advance shall constitute the basis for distribution of the corporate tax liability to all the generating stations:

Provided further that the benefits of tax-holiday as applicable in accordance with the provisions of the Income- Tax Act, 1961 shall be passed on to the beneficiaries:

Provided further that in the absence of any other equitable basis, the credit for carried forward losses and unabsorbed depreciation shall be given in the proportion as provided in the second provision to this regulation:

Provided further that the income tax allocated to the generating station shall be charged to the beneficiaries in the same proportion as Annual Capacity charges”

- 3.77 In view of above provisions of the JKSERC (Hydro Generation Tariff) Regulations, 2011, the Commission is of the view that the Petitioner should provide separate accounts for each project/ station giving details of revenue, expenditure & income tax charged along with details of tax holiday applicable to each project & other provisions of the Income Tax Act. Accordingly, the Commission directs the Petitioner to submit the details of expenditure, revenue & income tax for each project/ station duly certified by Chartered Accountant along with next tariff petition for regulatory purposes & pass through of income tax.

Performance of Power Stations during FY 2013-14

Public Comments/Suggestions

- 3.78 The Objector stated that information pertaining to installed capacity and net energy supplied has been provided in the Petition. However, there is no mention of PLF at which the plants are operated. If the plants are being operated at substantially lower PLF than the designed load factor, the average cost of power (tariff) would be much higher than that submitted in the Petition. Similarly, if the plants are being operated a higher PLF than the designed load factor, the cost of power would be much lower.

Petitioner's Response

- 3.79 The Petitioner submitted that the aforementioned information in the Petition pertains to actual energy generated by its hydro stations. As most of these stations are old and weathered, they do not generate as per the designed energy (except for BHEP-I which generates in excess of its designed energy). However, the Petitioner does not pass through the underperformance of its stations in form of higher tariffs to the consumers as the tariff is proposed on the basis of design energy and not as per actual energy generated.

Commission's View

- 3.80 The Commission accepts the submission of the Petitioner. The tariff for each generating station has been approved on the basis of its normative design energy.

Arrears of PDD**Public Comments/Suggestions**

- 3.81 The Objector stated that, owing to the huge arrears of JKPDD, the Petitioner should be directed to reduce supply to JKPDD by 20% and be given an option to sell in open market in order to improve its financial health, thus enabling it to develop more projects in the State.
- 3.82 The Objector also stated that the Petitioner should provide the arrears outstanding as on 31st January 2015.

Petitioner's Response

- 3.83 The Petitioner submitted that it has long term PPAs with PDD according to which the power generated from all stations, except for BHEP-I, is to be procured by PDD at tariffs fixed by the Commission. In case of BHEP-I, 50% of power is sold to PDD and 50% is traded through PTC.
- 3.84 Further, the Petitioner submitted that since it is a wholly owned subsidiary of GoJK, it is not in a position to unilaterally terminate the PPAs with PDD without the approval of the Government. The Petitioner welcomes the suggestion of the Objector to sell power in open market and it shall make a proposal in this regard to the Government.
- 3.85 The Petitioner also submitted that the arrears of PDD as on 31st December 2014 were Rs 2379.10 Cr.

Commission's View

- 3.86 The Commission is concerned with the amount of arrears pending with JKPDD for payment to JKSPDC. The arrears have a detrimental impact on the credit rating of the corporation and consequently impacts its ability to attract cheaper financing. The Commission has already issued directives to resolve this matter. The Corporation needs to pursue the matter vigorously with the Utility for early recovery of the arrears and if necessary invoke various legal remedies available for resolution of this issue.

Water Usage Charges

Public Comments/Suggestions

- 3.87 The Objector submitted that the water usage charges per unit for each project should be separately mentioned, even though it is a pass through cost since these charges form a part of the tariff for PDD.

Petitioner's Response

- 3.88 The Petitioner submitted that the water usage charges per unit of energy for various power stations have been submitted separately to the Commission. The charges are based on the orders of JKSWRRA and calculations are done by JKSPDC itself. However the final figures are as per the bills raised by I&FC department, which is the nodal agency to raise bills on account of the actual water usage.

Commission's View

- 3.89 The Commission accepts the response of the Petitioner.

CHAPTER 4 - DETERMINATION OF AFC AND TARIFF FOR 8 HEPS FOR FY 2015-16

- 4.1 The Petitioner filed a petition before the Commission for approval of annual revenue requirement and Tariff Petition for FY 2015-16 for Eight (8) Hydro Electric Projects namely USHP II, Chenani III, Sewa III, Pahalgam, Igo – Marcellong, Bhaderwah, Marpachoo, Haftal which have a total installed capacity of 130.25 MW.
- 4.2 The Commission has approved the capital cost of these 8 HEP stations on the basis of the audited cost completion report submitted by the Petitioner. This has been considered in accordance with the Notification dated May 10, 2006 pursuant to the J&K State Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff), 2005.
- 4.3 In compliance with the Directive 6 issued by the Commission in the Tariff Order for the year 2008-09, an independent consultant was appointed by the Petitioner for revalidation of design energy based upon the norms specified in the (Hydro Generation Tariff) Regulations, 2005. The report on validation of the design energy issued by the consultant was submitted to the Commission by the Petitioner.
- 4.4 The assessment of design energy for various plants was done in accordance with the Regulation 14 of Chapter – 1 of the J&K SERC (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2005. Design Energy has been defined as the quantum of energy, which could be generated in a 90% dependable year with 95% installed capacity of the generating station in the above mentioned regulations. The Commission had approved such revalidation of design energy in the Tariff Order dated 30th April 2010.
- 4.5 Tariff of a generating station is computed by dividing the AFC by the net saleable energy in million units. The net saleable energy in million units is determined by reducing the allowable losses on account of auxiliary consumption and transformation losses from the design energy.
- 4.6 The petition for approval of AFC and tariff for FY 2015-16 in respect of these HEPS has been filed in accordance with the JKSERC (Hydro Generation Tariff) Regulations, 2011. The components of tariff and the Commission's view on those assumptions have been detailed in this chapter.

Particulars of 8 HEPS

- 4.7 The following table provides particulars regarding the 8 HEPS in respect of which AFC and tariff for FY 2015-16 are being approved in this chapter. Particulars such as approved capital cost, installed capacity, design energy, net saleable energy and date of Commissioning of the 8 HEPS are summarised in the following table.

Table 72: Particulars regarding 8 HEPs

Name of HEP	Capacity in MW	Project Cost (Rs Cr)	Subsidy up to FY 13-14 (Rs Cr)	Project cost net of subsidy (Rs Cr)	Design Energy (MU)	Net Saleable Energy (MU)	Date of Commissioning
USHP-II	105.00	434.99	0.00	434.99	447.37	442.91	June 2002
Chenani-III	7.50	54.97	0.00	54.97	36.71	36.34	June 2003
Sewa-III	9.00	66.84	0.00	66.84	33.06	32.73	June 2003
Bhaderwah	1.50	10.60	2.44	8.16	9.44	9.35	May 2005
Pahalgam -I&II	3.00	55.20	3.00	52.20	17.30	17.13	June 2005
Pahalgam -III	1.50	4.35	0.67	3.69			July 2013
Haftal	1.00	16.13	2.25	13.88	4.88	4.83	June 2006
Marpachoo	0.75	12.85	1.71	11.14	3.79	3.75	June 2006
Igo-Mercellong	3.00	49.42	3.00	46.42	15.88	15.72	Aug 2005
Total	132.25	705.35	13.07	692.29	568.43	562.76	

Additional Capitalization

Pahalgam HEP

- 4.8 In the Tariff Order for FY 2014-15 dated 21st February 2014, the Commission had scrutinized the submissions of the Petitioner regarding the additional capitalization of Pahalgam HEP. The Commission had approved the additional capitalization in respect of Pahalgam Unit-III provisionally in accordance with actual expenditure incurred up to 31st January 2014 subject to true up on the basis of audited data or verified by independent technical evaluator.
- 4.9 The Commission had also directed the Petitioner to submit a report of the independent technical evaluator, audited accounts for FY 2011-12 and FY 2012-13, the details of the design energy and Commercial Operation Date (CoD) of Unit-III along with the next tariff petition for truing up of capital cost for Pahalgam HEP Unit III.
- 4.10 However the Petitioner did not submit the required report of the independent evaluator along with its Tariff Petition for FY 2015-16. The Commission vide letter no. JKSERC/Secy/1273/17 dated 03 December 2014 directed the Petitioner to submit the auditor certificate for the capital cost as well as details of funding for the additional capitalization.
- 4.11 The Petitioner in its reply vide Letter No. JKSPDC/P-241(IV)/T-1095/2954 dated 15 December 2014 submitted the audited expenditure on the Unit-III of Pahalgam HEP up to 10th February 2014.
- 4.12 On scrutiny of the submission of the Petitioner, the Commission found that the audited details submitted now by the Petitioner match with the expenditure submitted by the Petitioner during the processing of the Tariff Order for the FY 2014-15.

- 4.13 The details of expenditure submitted now by the Petitioner have been summarised in the following table.

Table 73: Actual Expenditure incurred on Unit III of Pahalgam HEP (Rs Lakhs)

Sl. No.	Particulars	FY 2012-13	FY 2013-14 (upto 10 th Feb 14)	Total
1	Design Engineering manufacture supply & Transportation to project site, insurance, storage and commissioning of new 1.5MW horizontal unit alongwith accessories	157.21	210.81	368.02
2	Transition piece	4.00		4.00
3	Cable	6.22		6.22
4	Spill way cascading and construction of out fall at RD 55m to 90m (Spill way).	20.00	13.22	33.22
5	Construction of Anchor blocks/Settlement joint for third unit.	15.92	3.89	19.81
6	Second stage concrete for unit third including removal of bulk head & providing flooring for left out portion of Power House.	4.22		4.22
	Total	207.57	227.92	435.49

- 4.14 The Commission after scrutinizing the audited capital cost of Unit-III approves the additional capitalization of Rs 4.35 Cr with respect to Unit-III of Pahalgam HEP. The details of approved additional capitalization of Pahalgam HEP have been summarised below:

Table 74: Details of approved additional capitalization of Pahalgam HEP

Installed Capacity (MW)	Design Energy (MU)	Project Cost (Rs Cr.)	Subsidy (Rs Cr.)	Additional Capitalization (Rs Cr.)	Subsidy for additional capitalization (Rs Cr.)
4.5	17.30	55.20	3.00	4.35	0.67

Bhaderwah HEP

- 4.15 The Petitioner submitted that the capacity of Bhaderwah HEP has been augmented by adding a third unit of 0.5 MW. The Petitioner has not sought additional capitalization against the augmentation of installed capacity at Bhaderwah HEP.
- 4.16 The Commission in its Tariff Order for FY 2014-15 dated February 2014 had not allowed any additional capital expenditure on account of the additional capacity as the Petitioner had failed to submit any audited details/documents in support of its plea.

- 4.17 The Commission now approves the augmentation in installed capacity of Bhaderwah HEP. The details of approved additional capitalization of Bhaderwah HEP have been summarised below:

Table 75: Details of approved additional capitalization of Bhaderwah HEP

Installed Capacity (MW)	Design Energy (MU)	Project Cost (Rs Cr.)	Subsidy (Rs Cr.)	Additional Capitalization (Rs Cr.)	Subsidy for additional capitalization (Rs Cr.)
1.5	9.44	10.60	2.44	-	-

Interest on Loan

- 4.18 The Regulation 18(1) of the (Hydro Generation Tariff) Regulations, 2011 mandates that for the purpose of tariff determination the amount of equity shall be limited to 30% of the capital cost and the balance shall be considered as normative loan. Further the Regulation 18(2) mandates that the amount of debt and equity computed in accordance with provisions of Regulation 18(1) shall be used for calculating interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.
- 4.19 In accordance with above mentioned principle, amount of normative loan to be considered for provision of interest is equal to 70% of capital cost net off subsidy.
- 4.20 Under the provisions of the Regulation 22 of the Hydro Generation Tariff Regulations, 2011 for the purpose of calculation of interest on loan, the outstanding loan amount shall be worked out as the gross loan as per Regulation 18 (1) minus cumulative repayment as admitted by the Commission. Future repayments shall be worked out on normative basis.
- 4.21 The interest rate, term of loan, moratorium period and repayment schedule for the normative loans have been considered the same as those pertaining to the loans actually obtained for each project.
- 4.22 Erstwhile loans undertaken with respect to USHP II, Chenani III, Igo-Merchellong, Bhaderwah and Sewa III hydro generating plants, which have been in operation for more than 10 years, have been considered to be repaid in full, since these loans were taken for a period of ten years and the interest on these loans has ceased to accrue beyond FY 2012-13.
- 4.23 The details of interest approved by the Commission have been summarized in the following table.

Table 76: Approved Interest on Loan for 8 HEPs for FY 2015-16 (Rs Cr)

Name of HEP	Amount
USHP-II	0.00
Chenani-III	0.00
Sewa-III	0.00
Bhaderwah	0.00
Pahalagam	0.29
Haftal	0.03
Marpachoo	0.03
Igo-Mercellong	0.00
Total	0.35

Depreciation including Advance against Depreciation

4.24 Depreciation has been computed for each class of assets in accordance with Regulation 23(1) of the (Hydro Generation Tariff) Regulations, 2011 at the rates specified in the Appendix to these regulations.

4.25 The Commission has determined the depreciation and AAD in accordance with Regulation 23 of JKSERC (Hydro Generation Tariff) Regulations, 2011 and at the rates prescribed in appendix to the regulations. The Regulation 23 has been reproduced below:

- “(1) *The value base for the purpose of depreciation shall be the historical cost of the asset.*
- (2) *Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates prescribed in Appendix to these regulations. The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2005 already allowed by the State Government/ Commission.*
- (3) *On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.*
- (4) *Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.”*

4.26 The amount of depreciation for USHP II, Chenani III, Igo-Merchellong, Bhaderwah and Sewa III hydro generating stations has been determined by apportioning the net book value of assets over the remaining useful life of these assets. This methodology is in line with Regulation 23(3) stated above and has been adopted because the loan undertaken by the Petitioner has been repaid in full. The following tables provide details of the working of depreciation for these 5 stations.

Table 77: Working of depreciation for USHP-II

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	7.50	-	-	-	-
Civil Works	35	2.57%	287.34	258.61	81.23	177.37	7.39
Building	50	1.80%	4.94	4.45	0.98	3.47	0.09
Power Plant	35	2.57%	96.77	87.09	27.36	59.74	2.49
Switch Gears	25	3.60%	32.25	29.03	12.77	16.25	1.16
Communication	15	6.00%	6.20	5.58	4.09	1.49	0.37
Total			435.00	384.76	126.43	258.32	11.50

Table 78: Working of depreciation for Chenani-III

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	1.45	-	-	-	-
Civil Works	35	2.57%	39.61	35.65	10.18	25.47	1.02
Building	50	1.80%	1.15	1.04	0.21	0.83	0.02
Power Plant	35	2.57%	9.27	8.34	2.38	5.96	0.24
Switch Gears	25	3.60%	3.09	2.78	1.11	1.67	0.11
Communication	15	6.00%	0.40	0.36	0.24	0.12	0.02
Total			54.97	48.17	14.12	34.05	1.41

Table 79: Working of depreciation for SEWA-III

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	0.70	-	-	-	-
Civil Works	35	2.57%	43.59	39.23	11.20	28.03	1.12
Building	50	1.80%	2.29	2.06	0.41	1.65	0.04
Power Plant	35	2.57%	14.71	13.24	3.78	9.46	0.38
Switch Gears	25	3.60%	4.90	4.41	1.76	2.65	0.18
Communication	15	6.00%	0.66	0.59	0.40	0.20	0.04
Total			66.85	59.53	17.55	41.99	1.76

Table 80: Working of depreciation for Bhaderwah HEP

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	0.15	-	-	-	-
Civil Works	35	2.57%	5.35	4.82	1.37	3.44	0.14
Building	50	1.80%	0.69	0.62	0.12	0.50	0.01
Power Plant	35	2.57%	2.64	2.38	0.68	1.70	0.07
Switch Gears	25	3.60%	0.88	0.79	0.32	0.48	0.03
Communication	15	6.00%	0.90	0.81	0.54	0.27	0.05
Total			10.60	9.42	3.03	6.39	0.30

Table 81: Working of depreciation for Igo-Merchellong HEP

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	0.08	-	-	-	-
Civil Works	35	2.57%	33.36	30.02	8.57	21.45	0.86
Building	50	1.80%	1.37	1.23	0.25	0.99	0.02
Power Plant	35	2.57%	10.57	9.51	2.72	6.80	0.27
Switch Gears	25	3.60%	3.52	3.17	1.27	1.90	0.13
Communication	15	6.00%	0.53	0.48	0.32	0.16	0.03
Total			49.43	44.41	13.13	31.30	1.31

4.27 For other 3 HEPs, depreciation has been computed on the average of the asset value at the beginning and end of FY 2015-16.

4.28 The table below summarizes the particulars regarding various class of assets, rate of depreciation and useful life provided by the Petitioner. Cost of land has been excluded from the total capitalization value for each HEP for the purpose of computation of depreciation.

Table 82: Particulars regarding classification of assets for depreciation calculation

Class of Assets	Useful Life (In Years)	Rate of Depreciation
Land	Perpetual	0%
Civil Works	35	2.57%
Building	50	1.80%
Power Plant	35	2.57%
Switch Gears	25	3.60%
Communication	15	6%

- 4.29 The Commission has determined Advance Against Depreciation (AAD) in accordance with the Regulation 24 of JKSERC Hydro Generation Tariff Regulations, 2011 and has been reproduced below:

“In addition to allowable depreciation, utility shall be entitled to an advance against depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per Regulation 22 subject to a ceiling of 1/10th of loan amount as per regulation 18 minus depreciation as per schedule.

Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year:

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.”

- 4.30 AAD has not been approved in respect of USHP II, Sewa III and Chenani III hydro generating stations because the original loan outstanding in respect of these three hydro generating stations has been repaid in full by FY 2011-12. Since there is no repayment in respect of the original loans, AAD cannot be allowed to the Petitioner for these hydro generating stations.
- 4.31 The amount of depreciation and AAD as approved by the Commission for FY 2015-16 is given in the following table.

Table 83: Approved Depreciation and Advance against Depreciation for 8 HEPs for FY 2015-16 (Rs Cr)

Name of HEP	Depreciation Amount	Advance against Depreciation
USHP-II	11.50	0.00
Chenani-III	1.41	0.00
Sewa-III	1.76	0.00
Bhaderwah	0.30	0.00
Pahalagam	1.76	0.00
Haftal	0.42	0.55
Marpachoo	0.35	0.43
Igo-Mercellong	1.31	0.00
Total	18.81	0.98

Return on Equity

4.32 The Commission has determined return on equity at 14% as per Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. The return on equity has been determined at the equity base as determined in accordance with Regulation 18 of the above mentioned regulations. Regulation 18 of above-mentioned Regulations states that:

“(1) In case of all generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan

Provided that in case actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

(2) The debt and equity amounts arrived at in accordance with (1) above shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and foreign Exchange Rate Variation.”

4.33 Further, Regulation 25 of above-mentioned tariff regulations states that:

“Return on equity shall be computed on the equity base determined in accordance with regulation 18 and shall be @ 14% per annum”

4.34 For the purpose of Regulation 25, equity base has been considered to be 30% of the average capital cost for each generating station for FY 2015-16. The average of capital cost for the HEP as on 1 April 2014 and the capital cost of the HEP as on 31 March 2015 has been computed.

4.35 This average capital cost has been used as base to determine the average equity attributable to the generating station during FY 2015-16 and the return on equity at the rate of 14% has been allowed on this average equity amount.

4.36 The return on equity as approved by Commission for 8 HEPs for FY 2015-16 is as given in the following table.

Table 84: Approved Return on Equity for 8 HEPs for FY 2015-16 (Rs Cr)

Name of HEP	Amount of Equity	Return on Equity
USHP-II	130.50	18.27
Chenani-III	16.49	2.31
Sewa-III	20.05	2.81
Bhaderwah	2.45	0.34
Pahalagam	16.80	2.35
Haftal	4.16	0.58

Name of HEP	Amount of Equity	Return on Equity
Marpachoo	3.34	0.47
Igo-Mercellong	13.93	1.95
Total	207.72	29.08

Operation & Maintenance Expenses

4.37 The Commission has computed the O&M expenses for 8 HEPs with the exception of (Haftal and Marpachoo) as per Regulation 26(1) (a) of the Hydro Generation Tariff Regulations 2011, states that:

“26. Operation and Maintenance Expenses:-

(1) For plants more than 5 years age:

(a) The operation and maintenance expenses including insurance, for the existing generating stations which have been in operation for 5 years or more in the base year of 2010-11, shall be derived on the basis of actual operation and maintenance expenses for the years 2005-2006 to 2009-10, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence, check by the Commission;

(b) The average of such normalized operation and maintenance expenses after prudence check, for the years 2005-2006 to 2009-10 considered as operation and maintenance expenses for the year 2007-08 shall be escalated at the rate of 4% per annum to arrive at operation and maintenance expenses for the base year 2010-11.

(c) The base operation and maintenance expenses for the year 2010-11 shall be escalated further at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year of tariff period.”

4.38 The Petitioner submitted details of actual O&M expenses for 8 HEPs for the period 2005-06 to 2009-10. The average of such O&M expenditure for the aforementioned period has been considered to be the O&M expenditure for FY 2007-08. Thereafter, the same has been escalated @4% per annum to arrive at the O&M expenditure allowable to the Petitioner for FY 2015-16.

4.39 Hydro generating stations Haftal and Marchpachoo were commissioned in June 2006 and were in existence for a period less than 5 years in the base year of 2010-11. Therefore, the O&M expenses applicable to these two generating stations have been computed in accordance with Regulation 26(2) of the Hydro Generation Tariff Regulations 2011, which states that:

“26(2) For plants less than 5 years age:

(a) In case of the hydro electric generating stations, which have not been in existence for a period of five years, the operation and maintenance expenses shall be fixed at 1.5% of the capital cost as admitted by the Commission and shall be escalated at the rate of 4% per annum from the subsequent year to arrive at operation and maintenance expenses for the base year 2010-11. The base operation and maintenance expenses shall be further escalated at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year.”

4.40 Accordingly, O&M expenses for Haftal and Marpachoo have been fixed at 1.5% of the capital cost in the year of commercial operation and escalated at the rate of 4% per annum from the subsequent year onwards to arrive at the O&M expenses allowable for FY 2015-16.

4.41 Furthermore, in respect of hydro generating stations of the capacity between 1 MW and 25 MW in respect of which reliable historical data is not available during the initial five years, the Commission has issued notification number JKSERC/13/2011 dated April 20, 2011. Regulation 2(iii) of this notification states that:

“In relaxation of Regulation 26 (2), the actual O&M expenses shall not be more than 3% of the capital cost. In addition, actual insurance charges will be allowed subject to a ceiling of 1 % of the capital cost.”

4.42 In the case of Haftal and Marpachoo, the O&M expenses approved by the Commission for FY 2015-16 do not exceed 3% of the capital cost.

4.43 O&M expense approved by Commission for 8 HEPs for FY 2015-16 is given in the following table:

Table 85: Approved Amount for O&M expenses for 8 HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	O&M Expenses
USHP-II	10.63
Chenani-III	1.49
Sewa-III	2.06
Bhaderwah	0.21
Pahalagam	1.17
Haftal	0.34
Marpachoo	0.27
Igo-Mercellong	1.26
Total	17.43

Interest on Working Capital

4.44 The Commission has determined the interest on working capital as per Regulation 27 of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“(1) Working Capital shall cover:

(a) Operation and Maintenance expenses for one month;

(b) Maintenance spares @1 % of the historical cost escalated @ 6% per annum from the date of commercial operation and

(c) Receivables equivalent to two months of fixed charges for sale of electricity calculated on normative capacity index.

(2) Rate of interest on working capital shall be the short-term Prime Lending Rate of Jammu and Kashmir Bank as on 1.4.2011 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later. The interest on working capital shall be payable on normative basis notwithstanding that the utility has not taken working capital loan from any outside agency.”

4.45 The interest on working capital has been taken as 13.50% which is the PLR of J&K bank as on 1 April 2011. The working capital approved by the Commission for 8 HEPs and interest thereon is given in the table below:

Table 86: Approved Amount for interest on working capital for 8 HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Working Capital approved	Interest on Working Capital
USHP-II	17.32	2.34
Chenani-III	2.20	0.30
Sewa-III	2.74	0.37
Bhaderwah	0.37	0.05
Pahalagam	2.10	0.28
Haftal	0.64	0.09
Marpachoo	0.51	0.07
Igo-Mercellong	1.80	0.24
Total	27.68	3.74

Consultancy Charges

4.46 The Commission approves the apportionment of the total consultancy charges of Rs. 1.52 Cr as against the consultancy charges of Rs 1.74 Cr claimed by the Petitioner towards the following activities:

- (a) Corporate Restructuring
 - (b) Conversion to double entry system
 - (c) IPO for JKSPDC
 - (d) CDM Consultancy
 - (e) Preparation of ARR & Tariff Petition
- 4.47 The Commission has also approved reimbursement of tariff filing fee of Rs 3 Lacs. This amount has been included as a part of consultancy charges approved for FY 2015-16.
- 4.48 The Commission has disallowed the consultancy charges of Rs 22 Lacs towards coal block allocation to JKSPDC. The Commission is of the view that the Petitioner should capitalize such costs along with the capital cost of its proposed coal based power station.
- 4.49 The total charges of Rs 1.52 Cr have been apportioned amongst the 8 HEPs, 10 old HEPs, Baglihar hydro project, Stakna HEP and Sanjak HEP on the basis of installed capacity and included in the AFC of the respective generating stations on this basis.
- 4.50 The consultancy charge including tariff filing fee approved by the Commission for inclusion in annual fixed charge for each of the 8 HEPs is given in the table below:

Table 87: Approved Amount for Consultancy Charges for 8 HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Share in Consultancy Charges
USHP-II	0.21
Chenani-III	0.01
Sewa-III	0.02
Bhaderwah	0.00
Pahalagam	0.01
Haftal	0.00
Marpachoo	0.00
Igo-Mercellong	0.01
Total	0.26

Non-Tariff Income (NTI)

- 4.51 The Commission has determined Non-tariff income as per Regulation 21(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“Income, other than that through charges permitted by the Commission, and involving utilization of the utility's assets may be suitably accounted for by the

Commission while determining the tariff

- 4.52 The Commission has considered total non-tariff income earned by JKSPDC as Rs 30 Cr, which has been apportioned on the basis of the installed capacity of each station. The income calculated from each station is then deducted from the total ARR of respective station. The table below details the non-tariff income as approved by the Commission for FY 2015-16:

Table 88: Approved Amount for non-tariff income for 8 HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Share in NTI
USHP-II	4.12
Chenani-III	0.29
Sewa-III	0.35
Bhaderwah	0.08
Pahalagam	0.24
Haftal	0.04
Marpachoo	0.03
Igo-Mercellong	0.12
Total	5.27

Annual Fixed Charges and Indicative Tariff for FY 2015-16

- 4.53 The Commission has approved the annual fixed charges proposed for 8 HEPs for FY 2015-16. The AFC has been calculated by considering the various components of tariff as described above. The indicative tariff approved for FY 2015-16 has been computed by taking into account net saleable energy of various HEPs.
- 4.54 The table below provides the approved component wise break-up of total annual fixed charges and indicative tariff approved for 8 HEPs for FY 2015-16.

Table 89: Approved component wise break up of AFC for 8 HEPs for FY 2015-16 (Rs Cr)

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int. on WC	Cons. Charge	Less: NTI	Total AFC (Rs Cr)	Net Saleable Energy (In MU)	Indicative Tariff (Rs per kWh)
USHP-II	10.63	-	11.50	-	18.27	2.34	0.21	4.12	38.83	442.02	0.88
Chenani-III	1.49	-	1.41	-	2.31	0.30	0.01	0.29	5.23	36.34	1.44
Sewa-III	2.06	-	1.76	-	2.81	0.37	0.02	0.35	6.67	32.73	2.04
Bhaderwah	0.21	-	0.30	-	0.34	0.05	0.00	0.08	0.82	9.35	0.88
Pahalagam	1.17	0.29	1.76	-	2.35	0.28	0.01	0.24	5.62	17.13	3.28
Haftal	0.34	0.03	0.42	0.55	0.58	0.09	0.00	0.04	1.97	4.83	4.08
Marpachoo	0.27	0.03	0.35	0.43	0.47	0.07	0.00	0.03	1.59	3.75	4.24

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int. on WC	Cons. Charge	Less: NTI	Total AFC (Rs Cr)	Net Saleable Energy (In MU)	Indicative Tariff (Rs per kWh)
Igo-Mercellong	1.26	-	1.31	-	1.95	0.24	0.01	0.12	4.65	15.72	2.96

CHAPTER 5 – DETERMINATION OF AFC AND TARIFF FOR 10 HEPs FOR FY 2015-16

- 5.1 The Petitioner filed a petition before the Commission for approval of annual revenue requirement and Tariff Petition for FY 2015-16 for Ten (10) old Hydro Electric Projects namely USHP I, Lower Jhelum, Ganderbal, Chenani I, Karnah, Iqbal Bridge, Bazgo, Sumoor, Hunder, Chenani II which have a total installed capacity of 174.45 MW.
- 5.2 The Commission in the Tariff Order for FY 2008-09 had directed the Petitioner to apply for approval of tariff for these 10 old HEPs as per the JKSERC (Terms and Conditions for Determination for Hydro Generation Tariff) Regulations, 2005.
- 5.3 Based on the directive issued by the Commission in the earlier Orders, the Petitioner JKSPDC had engaged an independent consultant / valuer to carry out a Physical Verification and Revaluation of Fixed Assets of the 10 HEPs. The consultants engaged by the Petitioner submitted a report on the Physical Verification and Revaluation of Fixed Assets as on March 31, 2009 with respect to the 10 HEP projects.
- 5.4 The Commission considered the project cost for the 10 HEPs as given in the physical verification and revaluation of fixed assets report issued by the consultants of the JKSPDC. Tariff determination for the 10 HEPs for FY 2009-10 and FY 2010-11 was done by taking into account the project costs detailed in the said report.
- 5.5 In compliance with the Directive 6 issued by the Commission in the Tariff Order for the year 2008-09, an independent consultant was appointed by the Petitioner for revalidation of design energy for each of the 10 old HEPs based upon the norms specified in the JKSERC (Terms and Conditions for Determination for Hydro Generation Tariff) Regulations, 2005. The report on validation of the design energy issued by the consultant was submitted to the Commission by the Petitioner.
- 5.6 The assessment of design energy for various plants was done in accordance with the Regulation 14 of Chapter – 1 of the J&K SERC (Terms and Conditions for Determining Hydro Generation Tariff) Regulations, 2005. Design Energy has been defined as the quantum of energy, which could be generated in a 90% dependable year with 95% installed capacity of the generating station in the above mentioned regulations. The Commission had approved such revalidation of design energy in the Tariff Order dated 30 April 2010.

- 5.7 Tariff of a generating station is computed by dividing the AFC by the net saleable energy in million units. The net saleable energy in million units is determined by reducing the allowable losses on account of auxiliary consumption and transformation losses from the design energy.
- 5.8 The petition for approval of AFC and tariff for FY 2015-16 in respect of these 10 old HEPs has been filed in accordance with the JKSERC (Hydro Generation Tariff) Regulations, 2011. The components of tariff and the Commission's view on those assumptions have been detailed in this chapter.

Particulars of 10 old HEPs

- 5.9 The table below provides particulars regarding the 10 HEPs in respect of which AFC and tariff for FY 2015-16 is being approved in this chapter. Particulars such as approved capital cost, installed capacity, design energy, net saleable energy and date of commercial operation of the 10 old HEPs are summarized in the table below.

Table 90: Particulars regarding 10 old HEPs

Name of HEP	Capacity in MW	Project Cost	Subsidy up to FY 13-14	Project cost net of subsidy	Design Energy (MU)	Net Saleable Energy (MU)	Date of Commissioning
Karnah	2.00	13.54	0.00	13.54	11.36	11.22	1997
USHP-I	22.60	46.27	0.00	46.27	106.62	105.34	Jul-74
Lower Jhelum	105.00	421.25	0.00	421.25	609.43	602.14	Nov-79
Ganderbal	15.00	15.95	0.00	15.95	90.15	89.25	1961
Iqbal Bridge	3.75	24.63	0.00	24.63	21.23	21.08	1996
Bazgo	0.30	2.16	0.00	2.16	1.09	1.08	1994
Sumoor	0.10	0.70	0.00	0.70	0.45	0.45	1993
Hunder	0.40	2.86	0.00	2.86	1.77	1.76	1995
Chenani-II	2.00	11.73	0.00	11.73	12.00	11.88	1996
Chenani-I	23.30	78.49	0.00	78.49	110.02	108.92	1975
Total	174.45	617.58	0.00	617.58	964.12	953.12	

Additional Capitalization

- 5.10 The Petitioner in its petition has not proposed additional capital expenditure during FY 2015-16 on account of repair work undertaken for the 10 old HEPs. Accordingly, no additional capitalization has been approved for FY 2015-16.

Interest on Loan

- 5.11 Interest on loan has not been approved in respect of 10 old HEPs, since these are very old projects. No interest on loan has been approved in respect of these HEPs in the Tariff Orders for FY 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14.

Depreciation including Advance against Depreciation

- 5.12 Depreciation has been computed for each class of assets in accordance with Regulation 23(1) of the (Hydro Generation Tariff) Regulations, 2011 at the rates specified in the Appendix to these regulations.
- 5.13 The Commission has determined the depreciation and AAD in accordance with Regulation 23 of JKSERC (Hydro Generation Tariff) Regulations, 2011 and at the rates prescribed in appendix to the regulations. The Regulation 23 has been reproduced below:

- “(1) The value base for the purpose of depreciation shall be the historical cost of the asset.*
- (2) Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates prescribed in Appendix to these regulations. The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2005 already allowed by the State Government/ Commission.*
- (3) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.*
- (4) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.”*

- 5.14 The following table summarizes the particulars regarding various class of assets, rate of depreciation and useful life provided by the Petitioner. Cost of land has been excluded from the total capitalisation value for each HEP for the purpose of computation of depreciation.

- 5.15 Depreciation has been computed on the average of the asset value at the beginning and end of FY 2015-16. Moreover, in case of the 10 old HEPs, depreciation has not been allowed in respect of assets that have crossed their period of useful life. For the balance assets depreciation has been allowed as per remaining useful life in accordance with the Regulation 23(3) of the JKSERC Hydro Generation Tariff Regulations 2011

Table 91: Particulars regarding classification of assets for depreciation calculation

Classes of Assets	Useful Life (In Years)	Rate of Depreciation
Land	Perpetual	0%
Civil Works	35	2.57%
Building	50	1.80%
Power Plant	35	2.57%
Switch Gears	25	3.60%
Communication	15	6%

- 5.16 The Commission has not allowed AAD to the Petitioner because expenditure on additional capitalization has not been approved in the current tariff period.
- 5.17 The depreciation approved by Commission for 10 old HEPs for FY 2015-16 is given in the table below.

Table 92: Approved depreciation for 10 old HEPs for FY 2015-16 (Rs Cr)

Name of HEP	Depreciation Amount
Karnah	0.35
USHP-I	0.58
Lower Jhelum	5.30
Ganderbal	-
Iqbal Bridge	0.65
Bazgo	0.06
Sumoor	0.02
Hunder	0.07
Chenani-II	0.30
Chenani-I	1.65
Total	8.98

Return on Equity

- 5.18 The Commission has determined return on equity at 14% as per Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. The return on equity has been determined at the equity base as determined in accordance with Regulation 18 of the above mentioned regulations.
- 5.19 Regulation 18 provides:

“(1) In case of all generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan

Provided that in case actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

(2) The debt and equity amounts arrived at in accordance with (1) above shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and foreign Exchange Rate Variation.”

5.20 Regulation 25 provides:

“Return on equity shall be computed on the equity base determined in accordance with regulation 18 and shall be @ 14% per annum”

5.21 For the purpose of Regulation 25, equity base has been considered to be 30% of the average capital cost for each generating station for FY 2015-16 . The average of capital cost for the HEP as on 1 April 2014 and the capital cost of the HEP as on 31 March 2015 has been computed. This average capital cost has been used as base to determine average equity attributable to the generating station during FY 2015-16 and the return on equity at the rate of 14% has been allowed on this average equity amount.

5.22 The return on equity as approved by Commission for 10 old HEPs for FY 2015-16 is given in the table below.

Table 93: Approved Return on Equity for 10 old HEPs for FY 2015-16 (Rs Cr)

Name of HEP	Equity Amount	Return on Equity
Karnah	4.06	0.57
USHP-I	13.88	1.94
Lower Jhelum	126.37	17.69
Ganderbal	4.78	0.67
Iqbal Bridge	7.39	1.03
Bazgo	0.65	0.09
Sumoor	0.21	0.03
Hunder	0.86	0.12
Chenani-II	3.52	0.49
Chenani-I	23.55	3.30
Total	185.27	25.93

Operation & Maintenance Expenses

5.23 The Petitioner along with the previous year's Petition had submitted details of actual O&M expenses for 10 old HEPs for the period 2005-06 to 2009-10. The Commission had considered the O&M actual expenses submitted by the Petitioner for this period and conducted a prudence check in accordance with the provisions of Regulation 26(1) of the Hydro Generation Tariff Regulations 2011.

5.24 Regulation 26(1) states that:

26. "Operation and Maintenance Expenses:-

(1) For plants more than 5 years age:

(a) The operation and maintenance expenses including insurance, for the existing generating stations which have been in operation for 5 years or more in the base year of 2010-11, shall be derived on the basis of actual operation and maintenance expenses for the years 2005-2006 to 2009-10, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence, check by the Commission;

(b) The average of such normalized operation and maintenance expenses after prudence check, for the years 2005-2006 to 2009-10 considered as operation and maintenance expenses for the year 2007-08 shall be escalated at the rate of 4% per annum to arrive at operation and maintenance expenses for the base year 2010-11.

(c) The base operation and maintenance expenses for the year 2010-11 shall be escalated further at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year of tariff period."

5.25 For projecting O&M expenses for FY 2015-16, the average of O&M expenditure for the period 2005-06 to 2009-10 has been considered to be the O&M expenditure for FY 2007-08 thereafter, the same has been escalated @4% per annum to arrive at the O&M expenditure allowable to the Petitioner for FY 2015-16.

5.26 O&M expense as approved by Commission for 10 HEPs for FY 2015-16 is given in the below mentioned table.

Table 94: Approved Amount for O&M expenses for 10 old HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	O&M Expenses
Karnah	2.49
USHP-I	4.97
Lower Jhelum	12.50

Name of HEP	O&M Expenses
Ganderbal	3.93
Iqbal Bridge	2.24
Bazgo	0.21
Sumoor	0.11
Hunder	0.27
Chenani-II	0.40
Chenani-I	3.82
Total	30.94

Interest on Working Capital

5.27 While scrutinizing the submission made by the Petitioner, the Commission observed that the Petitioner had incorrectly reported the normative working capital requirements on a higher side. The Petitioner had estimated the escalation in maintenance spares twice which resulted in higher working capital requirement as well as interest on working capital. The Commission thus re-computed the interest on working capital based on norms and considering escalation in maintenance spares only once.

5.28 The Commission has determined the interest on working capital as per Regulation 27 of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“(1) Working Capital shall cover:

(a) Operation and Maintenance expenses for one month;

(b) Maintenance spares @1 % of the historical cost escalated @ 6% per annum from the date of commercial operation and

(c) Receivables equivalent to two months of fixed charges for sale of electricity calculated on normative capacity index.

(2) Rate of interest on working capital shall be the short-term Prime Lending Rate of Jammu and Kashmir Bank as on 1.4.2011 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later. The interest on working capital shall be payable on normative basis notwithstanding that the utility has not taken working capital loan from any outside agency.”

5.29 The interest on working capital has been taken as 13.50% which is the PLR of J&K bank as on 1 April 2011. The working capital approved by the Commission for 8 HEPs and interest thereon is given in the table below.

Table 95: Approved Amount for interest on working capital for 10 old HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Working Capital approved	Interest on Working Capital
Karnah	1.02	0.14
USHP-I	2.56	0.35
Lower Jhelum	14.30	1.93
Ganderbal	1.47	0.20
Iqbal Bridge	1.26	0.17
Bazgo	0.12	0.02
Sumoor	0.05	0.01
Hunder	0.15	0.02
Chenani-II	0.43	0.06
Chenani-I	3.18	0.43
Total	24.54	3.33

Consultancy Charges

- 5.30 The Commission approves the apportionment of the total consultancy charges of Rs. 1.52 Cr as against the consultancy charges of Rs 1.74 Cr claimed by the Petitioner towards the following activities:
- Corporate Restructuring
 - Conversion to double entry system
 - IPO for JKSPDC
 - CDM Consultancy
 - Preparation of ARR & Tariff Petition
- 5.31 The Commission has also approved reimbursement of tariff filing fee of Rs 3 Lacs. This amount has been included as a part of consultancy charges approved for FY 2015-16.
- 5.32 The Commission has disallowed the consultancy charges of Rs 22 Lacs towards coal block allocation to JKSPDC. The Commission is of the view that the Petitioner should capitalize such costs along with the capital cost of the proposed coal based power station.
- 5.33 The total charges of Rs 1.52 Cr have been apportioned amongst the 8 HEPs, 10 old HEPs, Baglihar hydro project, Stakna HEP and Sanjak HEP on the basis of installed capacity and included in the AFC of the respective generating stations on this basis.

- 5.34 The consultancy charge including tariff filing fee approved by the Commission for inclusion in annual fixed charge for each of the 10 HEPs is given in the table below.

Table 96: Approved amount for Consultancy Charges for 10 old HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Share of Consultancy Charges
Karnah	0.00
USHP-I	0.04
Lower Jhelum	0.21
Ganderbal	0.03
Iqbal Bridge	0.01
Bazgo	0.00
Sumoor	0.00
Hunder	0.00
Chenani-II	0.00
Chenani-I	0.05
Total	0.34

Non-Tariff Income (NTI)

- 5.35 The Commission has determined Non-tariff income as per Regulation 21(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“Income, other than that through charges permitted by the Commission, and involving utilization of the utility's assets may be suitably accounted for by the Commission while determining the tariff”

- 5.36 The Commission based on the said regulations and projections made by the Petitioner has considered total non-tariff income earned by JKSPDC as Rs 30 Cr, which has been apportioned on the basis of the installed capacity of each station. The income calculated from each station is then deducted from the total ARR of respective station. The table below details the non-tariff income as approved by the Commission for FY 2015-16.

Table 97: Approved amount for non-tariff income for 10 HEPs for FY 2015-16 (Rs. Cr)

Name of HEP	Share in NTI
Karnah	0.08
USHP-I	0.89
Lower Jhelum	4.12
Ganderbal	0.59
Iqbal Bridge	0.15
Bazgo	0.01
Sumoor	0.00

Name of HEP	Share in NTI
Hunder	0.02
Chenani-II	0.08
Chenani-I	0.91
Total	6.85

Approved Annual Fixed Charges and Indicative Tariff for 10 HEPs for FY 2015-16

5.37 The Commission has approved the annual fixed charges for 10 old HEPs for FY 2015-16. The AFC has been calculated by considering the various components of tariff as described above.

5.38 The following table provides the component wise break-up of total annual fixed charges approved and indicative tariff provisionally approved by the Commission for 10 old HEPs.

Table 98: Approved component wise break up of AFC for 10 old HEPs for FY 2015-16 (Rs Cr)

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int. on WC	Cons. Charge	Less: NTI	Total AFC (Rs Cr)	Net Saleable Energy (In MU)	Indicative Tariff (Rs per kWh)
Karnah	2.49	-	0.35	-	0.57	0.14	0.00	0.08	3.47	11.22	3.09
USHP-I	4.97	-	0.58	-	1.94	0.35	0.04	0.89	6.99	105.34	0.66
Lower Jhelum	12.50	-	5.30	-	17.69	1.93	0.21	4.12	33.51	602.14	0.56
Ganderbal	3.93	-	-	-	0.67	0.20	0.03	0.59	4.24	89.25	0.48
Iqbal Bridge	2.24	-	0.65	-	1.03	0.17	0.01	0.15	3.95	21.08	1.87
Bazgo	0.21	-	0.06	-	0.09	0.02	0.00	0.01	0.37	1.08	3.43
Sumoor	0.11	-	0.02	-	0.03	0.01	0.00	0.00	0.17	0.45	3.78
Hunder	0.27	-	0.07	-	0.12	0.02	0.00	0.02	0.46	1.76	2.61
Chenani-II	0.40	-	0.30	-	0.49	0.06	0.00	0.08	1.17	11.88	0.98
Chenani-I	3.82	-	1.65	-	3.30	0.43	0.05	0.91	8.34	108.92	0.77

CHAPTER 6 – DETERMINATION OF AFC AND TARIFF FOR BAGLIHAR HEP STAGE I FOR FY 2015-16

- 6.1 The Petitioner had filed a petition before the Commission for approval of annual revenue requirement and Tariff Petition for FY 2011-12 for Baglihar HEP Stage I project which included Baglihar Hydro Electric Project [Baglihar-Hydro] and a 68 km long 400 kV double circuit transmission line from Baglihar to Kishenpur including two bays at 400 kV Kishenpur sub-station of PGCIL [Baglihar-Transmission System] on 28 February 2011.
- 6.2 The Commission, vide order No. JKSERC/04 of 2010 dated April 30, 2010 issued Tariff Order on ARR and determination of generation tariffs for FY 2009-10 and FY 2010-11 for 18 HEPs owned and operated by the JKSPDC excluding Baglihar HEP which had been Commissioned on April 1, 2009. The Baglihar project consists of a Hydro Generating Station with an installed capacity 450 MW and a 400kV Transmission Line.
- 6.3 The Commission had taken a decision to determine the generation tariff for Baglihar HEP separately and not include it in the tariff determination process for other 18 generating stations owned and operated by JKSPDC. The Commission had directed the Petitioner to file a separate petition for the Baglihar HEP through Tariff Order No. JKSERC/04 of 2010 dated April 30, 2010.
- 6.4 While passing Tariff Order dated April 30, 2010, tariff for sale of power generated by the Baglihar Hydro project was provisionally allowed at the rate of Rs.3.54 per unit for FY 2009-10 and 2010-11. This was in consonance with the rate allowed in the PPA executed between JKSPDC and JKPDD for the year 2009-10. However, the rate mentioned in the PPA for FY 2010-11 is Rs.3.71 per unit and the Commission through its Review Order No. JKSERC/25/2010 dated 9th November 2010 agreed to allow provisional charging of tariff in accordance with the PPA till such time the Tariff Order for the Baglihar HEP Stage I is approved by the Commission. The provisional tariff shall be revised on approval of tariff by the Commission with retrospective effect from the date of commercial operation of the plant.
- 6.5 The Commission had further reiterated that the Petitioner shall submit audited DPR for Baglihar HEP along with the Tariff Petition, the capital cost for the Baglihar HEP shall only be allowed after due prudence check by the Commission.
- 6.6 The Petitioner was also directed to submit details and other documents in support of the capital cost claimed by them for conducting a detailed prudence check of the capital cost for the Baglihar HEP before allowing the same in the tariff.
- 6.7 The Petitioner filed a combined Petition for the year determination of capital cost of the project and approval of ARR and Tariff Petition for the years 2009-10 and 2010-11 for both the hydro generation station and the transmission system on December 27, 2010.

- 6.8 The Commission conducted a detailed prudence check on the submissions made by the Petitioner as regards capital cost of the Baglihar Hydro Project and Baglihar Transmission System. The Commission has provisionally approved the capital expenditure of the project and determined tariff for FY 2009-10 and 2010-11 in its Tariff Order No. JKSERC/6 of 2011 issued on 16 June 2011. The provisionally approved capital cost net of revenue from infirm power and bifurcated for Baglihar Hydro and Baglihar Transmission System is given in the table below.

Table 99: Provisionally approved Capital Cost (Rs Cr)

Description	FY 2009-10			FY 2010-11		
	HEP Stage-I	Hydro	Trans System	HEP Stage-I	Hydro	Trans System
Total cost excl IDC +FC	4776.21	4626.64	149.57	5008.09	4858.52	149.57
IDC +FC	640.36	621.12	19.24	640.36	621.12	19.24
Total cost incl IDC +FC	5416.57	5247.76	168.81	5648.45	5479.64	168.81
Less: Infirm power	232.57	225.58	6.99	232.57	225.58	6.99
Total Project Cost (incl. grants & subsidy)	5184.00	5022.18	161.82	5415.88	5254.06	161.82
Less: Grants & Subsidy	556.00	539.29	16.71	567.00	549.96	17.04
Net Project Cost (excl. Grant & Subsidy)	4628.00	4482.88	145.12	4848.88	4704.10	144.79

- 6.9 Meanwhile the Petitioner filed a separate Tariff Petition No. JKSERC/27/2011 before the Commission on 28 February 2011 for determination of ARR and tariff for the year 2011-12 in respect of 19 HEPs and Baglihar transmission system.
- 6.10 The petition for approval of AFC and Tariff for FY 2012-13 in respect of Baglihar HEP Project Stage I was filed in accordance with the JKSERC (Hydro Generation Tariff) Regulations, 2011 and the Petition for approval of tariff for the Baglihar Transmission System was filed in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 as the transmission tariff regulation for the Jammu & Kashmir had not been notified by the Commission till that time.
- 6.11 For determination of Tariff for FY 2013-14, the Petitioner filed Petition for approval of AFC and tariff for FY 2013-14 in respect of Baglihar HEP Project Stage I in accordance with JKSERC (Hydro Generation Tariff) Regulations, 2011.
- 6.12 The Petitioner submitted that it had filed for approval of tariff for the Baglihar Transmission System in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 as the transmission tariff regulation for the Jammu & Kashmir had not be notified by the Commission till last year. But, the Commission during the technical validation session pointed out that JKSERC has already issued JKSERC (Terms and conditions for determination of transmission tariff) Regulations, 2012 for determination of transmission tariff.

- 6.13 Accordingly, the Commission directed the Petitioner to resubmit transmission ARR as per the said regulations. The said regulations are although based on multi-year tariff framework but the Commission directed the Petitioner to submit the revised ARR for the year i.e., FY 2013-14 only. Since, the project cost of Baglihar project is still under review by CEA/CWC, it would have been difficult for the Petitioner at this juncture to submit controllable and uncontrollable parameters based on the provisionally approved cost of the project.
- 6.14 The Petitioner has now filed for approval of AFC and Tariff for FY 2015-16 in respect of Baglihar HEP Project Stage I in accordance with the JKSERC (Hydro Generation Tariff) Regulations, 2011.
- 6.15 The petition for approval of AFC and Indicative Tariff for Baglihar - Transmission System for FY 2015-16 has been filed in accordance with the (Terms and Conditions of Transmission Tariff) Regulation, 2012 of JKSERC as was also done for the FY 2014-15.
- 6.16 The components of tariff and the Commission's view on those assumptions have been detailed in this chapter.

Capital Expenditure

Petitioners' Submission

- 6.17 The Petitioner submitted that the proposed net project cost of Baglihar HEP has been derived from the project cost of the HEP after adjusting for infirm power. The details of project cost for Baglihar –Hydro and Baglihar Transmission system as submitted by the Petitioner is provided in the following table:

Table 100: Petitioners submission on capital cost (expenditure) as on 31st March 2015 for Baglihar HEP

Name of HEP	Particulars	Total Project Cost including IDC and FC (Rs Cr)
Baglihar Hydro	Installed capacity 450 MW	5406.62
Baglihar Transmission System	500 MW for each circuit	168.03

Additional Capitalisation

- 6.18 The Petitioner has proposed additional capital expenditure of Rs 8.38 Cr which was deferred but was necessary for efficient and successful running of the plant. This has been included in the above mentioned capital expenditure as per the details indicated in the following table:

Table 101: Additional Capitalization submitted by Petitioner on Baglihar HEP Stage- I (Rs Cr.)

Sl. No.	Head of works	Revised estimated completion cost	Cost on COD 31-03-09	Cost ending 31-03-14	Estimated Addition during 2014-15	Estimated Cost ending 31-03-15	Estimated Cost ending on 31-03-16
1	Infrastructure Works						
	Preliminary including development investigation and planning						
	Land	60.00	17.09	32.68		32.68	32.68
	Buildings	39.86	26.03	33.29	0.05	33.34	33.34
	Roads & Bridges	115.46	79.79	82.77	1.21	83.98	83.98
	Maintenance	14.50	12.29	15.62	6.09	21.72	21.72
	Tools & Plants	-	-	-			
	Communication / Construction power	21.30	21.30	21.30	0.00	21.30	21.30
	Other misc.	85.49	67.05	69.72	0.03	69.75	69.75
	Vehicles	0.97	0.78	1.06	1.00	2.06	2.06
	Losses on stock	-	-	-			
	Receipt & Recoveries	-	-	-			
	Total (Infrastructure works)	337.58	224.33	256.44	8.38	264.83	264.83
2	Environment & Ecology & Rehab / Resett;	43.16	25.00	45.73	0.00	45.73	45.73
3	Major Civil Works						
	Dam, Intake & Desting Chambers / River Diversion	1965.70	1791.37	2070.16	0.00	2070.16	2070.16
	HRT, TRT, Surge Shaft & Pressure Shafts / Outfall	338.39	363.26	363.26	0.00	363.26	363.26
	Power Plant Civil Works / Switchyard	250.28	282.60	282.60	0.00	282.60	282.60
	Contingency	168.00	-	-			0.00
	Other Civil Works , variation/ Stage - II works / EoT Claims.	413.30	340.82	417.44	0.00	417.44	417.44
	Total (Major Civil Works)	3135.67	2778.05	3133.46	0.00	3133.46	3133.46
4	Design & Engineering	70.95	67.03	71.33	0.00	71.33	71.33
5	Hydro Mechanical equipments/ works	215.52	202.95	207.53	0.00	207.53	207.53
6	Electro-Mechanical works	712.50	671.78	711.23	0.00	711.23	711.23
7	Transmission Works	152.33	149.57	149.57	0.00	149.57	149.57
8	Taxes and Duties						

Sl. No.	Head of works	Revised estimated completion cost	Cost on COD 31-03-09	Cost ending 31-03-14	Estimated Addition during 2014-15	Estimated Cost ending 31-03-15	Estimated Cost ending on 31-03-16
	Custom Duty	-	-	-			
	Other Taxes & Duties	200.00	80.26	184.75	0.00	184.75	184.75
	Total Taxes & Duties	200.00	80.26	184.75	0.00	184.75	184.75
	Construction & Pre-commissioning expenses						
	Erection, testing & commissioning	-	-	-			
	Construction insurance	15.00	-	11.21	0.00	11.21	11.21
	Site supervision (Consultant)	130.75	115.23	139.95	0.00	139.95	139.95
	Total (Const. & Pre-commissioning)	145.75	115.23	151.16	0.00	151.16	151.16
10	Preoperative expenses / establishment	43.97	33.13	40.43	0.00	40.43	40.43
11	Office equipment / furniture	0.16	0.15	0.16	0.00	0.16	0.16
	Overheads						
	O&M mobilization / contingencies	12.28	0.07	0.07	0.00	0.07	0.07
	Audit & Accounts	-	-	-			
	Total (Overheads)	12.28	0.07	0.07	0.00	0.07	0.07
13	Capital Cost without IDC & FC	5069.87	4347.55	4951.86	8.38	4960.25	4960.25
14	Interest during construction (IDC) & Financing Charges (FC)	640.36	640.36	640.36	0.00	640.36	640.36
15	Total Capital cost including IDC & FC	5710.23	4987.91	5592.22	8.38	5600.61	5600.61

Commission's Views

- 6.19 The Commission in the Tariff Order for FY 2014-15 dated 21st February 2014 observed that the vetting of the capital cost has not been done by CEA/CWC despite repeated communications by the Petitioner. Due to the financial implications of delay in vetting and admittance of actual capital cost incurred by the Petitioner, the Commission had decided that it shall true up the admissible capital cost based on the audit certificate of independent auditor.

- 6.20 The Commission had directed the Petitioner to provide details of approved original & revised capital cost duly audited, year-wise additional capitalization, source of funding, actual repayment schedule, subsidy sanctioned / received, and DPRs.
- 6.21 During the scrutiny of the tariff petition for FY 2015-16, the Commission observed a number of deficiencies in the submission of the Petitioner with respect to the submission of requisite documents for conducting review of capital expenditure of Baglihar HEP. The Commission vide letter no. JKSERC/Secy/1273/17 dated 3rd December 2014 directed the Petitioner to remedy the discrepancies and submit the requisite documents.
- 6.22 The Petitioner vide letter no. JKSPDC/P-241(IV)/T-1095/2954 dated 15th December 2014 submitted its response to the deficiency note.
- 6.23 The Commission undertook a detailed scrutiny of the submissions made by the Petitioner. The Commission observed that the Petitioner had only partially considered the income of Rs 232.57 Cr accrued from sale of infirm power in its calculation for the capital expenditure of Baglihar HEP. The Petitioner instead had considered income from infirm power as Rs 25.97 Cr. The Commission directs the Petitioner to vigorously pursue the matter of recovery of the balance cost of infirm power.
- 6.24 The Commission also observed that contrary to the requirement of audited capital cost for approval of capital expenditure, the Petitioner had submitted the anticipated capital expenditure as on 31st March 2015. The Commission directs the Petitioner to submit the audited capital cost of the Baglihar HEP along with the next tariff Petition.
- 6.25 The capital expenditure proposed by the Petitioner has not yet been capitalized as it is still undergoing implementation. The Petitioner has also not considered the entire revenue from sale of infirm power while proposing the capital cost of Baglihar HEP. Constrained by these discrepancies, the Commission does not find it appropriate to finalize the capital expenditure on Baglihar HEP at this stage.
- 6.26 Therefore the Commission has retained the capital expenditure on the basis of provisionally adopted capital cost provided in Tariff Order dated 16th June 2011. The table below provides particulars regarding the Baglihar HEP Stage I in respect of which AFC and tariff for FY 2015-16 is being approved in this chapter.

Table 102: Particulars regarding Baglihar HEP Stage

Name of HEP	Particulars	Total Project Cost including IDC and FC (Rs Cr)	Design Energy (MU)	Net Saleable Energy (MU)	Date of Commissioning
Baglihar Hydro	Installed capacity 450 MW	5479.64	2536.07	2498.03	1 April 2009
Baglihar Transmission System	68 km 400kV Double Circuit Line	168.81	2536.07	2498.03	1 April 2009

6.27 The financing of the provisionally admitted capital expenditure has been considered in the debt: equity ratio of 70:30, respectively after netting the capital expenditure of infirm power and grants/ subsidies received. The following table summarises the financing of provisionally admitted capital expenditure for Baglihar HEP Stage-I.

Table 103: Financing of provisionally adopted capital cost for Baglihar HEP Stage I

Description	HEP Stage-I	Hydro	Trans System
Admitted capital expenditure incl. IDC +FC	5648.45	5479.64	168.81
Less: Infirm power	232.57	225.58	6.99
Total Project Cost net of infirm power	5415.88	5254.06	161.82
Less: Grants & Subsidy	567	549.96	17.04
Net Project cost net of grants/subsidies considered for computation of Int. on loan and RoE	4848.88	4704.10	144.79
Equity at 30%	1454.66	1411.23	43.44
Debt at 70%	3394.22	3292.87	101.35

6.28 For computation of return on equity, the Commission has considered 30% of the net project cost after accounting for infirm power and grants/subsidies i.e. Rs. 1411.23 Cr for Baglihar-Hydro and Rs. 43.44 Cr for Baglihar-Transmission system. Similarly, the interest on loan has been computed by the Commission on 70% of the net project cost after accounting for infirm power and grants/subsidies i.e. Rs. 3292.87 Cr for Baglihar-Hydro and Rs. 101.35 Cr for Baglihar-Transmission system. However, for computation of depreciation and O&M expenses, the Commission has considered the admitted capital cost as base i.e. Rs. 5,479.64 Cr for Baglihar-Hydro and Rs. 168.81 Cr for Baglihar-Transmission system.

Interest on Loan

Baglihar Hydro Project

- 6.29 As per Regulation 22 (1) of JKSERC (Hydro Generation Tariff) Regulations, 2011, the interest on loan capital shall be computed loan-wise including normative loans as determined as per Regulation 18.
- 6.30 Interest on loan for FY 2015-16 has been computed in accordance with the provisions of the regulation as mentioned above.

Baglihar Transmission System

- 6.31 The Commission has approved interest on loan in accordance with Regulation 4.8 of JKSERC (Transmission Tariff) Regulations, 2012 which states that:

“4.8.1 Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in sub clause 4.7above.

4.8.2 The loan outstanding as on 01.04.2013 shall be worked out as the gross loan minus cumulative repayment as admitted by the Commission up to 31.03.2013. The repayment for the period FY14 to FY16 shall be worked out on normative basis.

4.8.3 In case any moratorium period is availed of by the Transmission Licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and and interest on loan capital shall be calculated accordingly.”

- 6.32 Interest on loan for FY 2015-16 has been computed in accordance with the provisions of the regulation as mentioned above.

Refinancing of loans

- 6.33 The Commission in its Tariff Order for FY 2014-15 had directed the Petitioner to submit a report on benefits accrued from swapping of loans. The Petitioner submitted details vide letter no. JKSPDC/P-241 (IV)/T-1095/4789-90 dated 23 September 2014.
- 6.34 The Petitioner submitted that it had swapped term loans of UBI which had an existing rate of interest of 14.75% and Canara Bank which had an existing rate of interest of 14% with a J&K Bank Term Loan which has an interest rate of 11.75% per annum. The incidental charges incurred for swapping the term loans of UBI and Canara Bank was Rs 0.52 Cr and Rs 0.51 Cr respectively.
- 6.35 The Petitioner submitted that the swap of the two costliest outstanding term loans of Baglihar HEP Stage-I had resulted into an economic benefit of around Rs 8.99 Cr to the Corporation after accounting for all incidental charges.

- 6.36 The Petitioner also re-negotiated the rate of interest of the outstanding loan from HUDCO which was revised from fixed to floating HUDCO Reference rate +1.50% (effective rate of 11.75% at the time of submission). The Petitioner submitted that approximately Rs 8.74 Cr of interest cost was reduced by this conversion.
- 6.37 The Commission appreciates the efforts made by the Petitioner to refinance its term loans for reducing its debt burden.
- 6.38 The Commission scrutinized the submission made by the Petitioner and determined the impact of refinancing on the interest on loan component of the Baglihar HEP for FY 2015-16.
- 6.39 The Regulation 22 (3) and Regulation 22 (4) of JKSERC (Hydro Generation Tariff) Regulations, 2011 specify:
- (3) The utility shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries.*
- (4) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries.*
- 6.40 Accordingly the Commission has considered the revised interest rate of 11.75% per annum on the outstanding loan component from J&K Bank (refinanced term loans from UBI and Canara Bank) and HUDCO for determination of respective interest on loans.
- 6.41 In accordance with Regulation 22(3) of the JKSERC (Hydro Generation Tariff) Regulations, 2011 the incidental charges of Rs 1.03 Cr associated with swapping of UBI and Canara Bank Loans has been passed on to the beneficiaries.
- 6.42 The net benefit accrued from refinancing of loans has been allocated to the Hydro and Transmission system on the basis of ratio of gross fixed assets.
- 6.43 The following table provides the amount of interest on loan approved by the Commission for FY 2015-16 allocated proportionately between Baglihar Hydro and Baglihar Transmission Line.

Table 104: Approved Interest on Loan for FY 2015-16 (Rs Cr)

Particulars	Baglihar Hydro	Baglihar Transmission System
Interest on Loan	118.35	3.64

Depreciation including Advance against Depreciation

Baglihar Hydro Project

6.44 The Commission has determined the depreciation and AAD in accordance with Regulation 23 of JKSERC (Hydro Generation Tariff) Regulations, 2011 and at the rates prescribed in appendix to the regulations. The Regulation 23 has been reproduced below:

- “(1) The value base for the purpose of depreciation shall be the historical cost of the asset.*
- (2) Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates prescribed in Appendix to these regulations. The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2005 already allowed by the State Government/ Commission.*
- (3) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.*
- (4) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.”*

6.45 The Commission has allowed depreciation at the specified rates on the average value of gross fixed assets (GFA) for each class of assets. For this purpose, the Commission has considered the opening value of each individual class of assets as on 1st April 2014. The GFA as on 31st March 2014 has been taken as the opening balance of GFA for the FY 2015-16.

6.46 Specified rates of depreciation have been applied to the average of such opening and closing GFA (which is the same in this case) to arrive at the depreciation allowable for the FY 2015-16.

6.47 The Commission has allowed AAD to the Petitioner in accordance with Regulation 24 of JKSERC (Hydro Generation Tariff) Regulations, 2011 by taking into account the loan repayment and the depreciation allowed to the Petitioner during the year.

AAD = Loan repayment amount as per Regulation 22 subject to a ceiling of 1/10th of loan amount as per regulation 18 minus depreciation as per schedule. Provided that Advance Against Depreciation shall be permitted only if the

cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year:

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year:

- 6.48 For FY 2015-16, 1/10th of loan amount exceeds the loan repayment amount therefore, based on the regulations, the Commission has deducted loan repayment amount from the depreciation allowed during the year.

Baglihar Transmission System

- 6.49 The Commission has allowed depreciation and advance against depreciation to the Petitioner for FY 2015-16 in accordance with Regulation 4.9 of the of JKSERC Transmission Regulations, 2012 which states that:

“4.9.1 Depreciation shall be computed in the following manner, namely:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.

(ii) Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates specified in Appendix-2 to these Regulations.

(iii) The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset.

4.9.2 Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

4.9.3 The above said rate of depreciation shall be applicable both for the purpose of tariff as well as accounting.

4.9.4 The Commission may consider allowing ‘advance against depreciation’ to the extent of difference between the amount of depreciation computed and the debt repayment for the financial year.”

- 6.50 The Commission has determined the depreciation for FY 2015-16 on the provisionally approved capital expenditure which is Rs. 144.79 Cr.

- 6.51 The Commission has allowed depreciation at the specified rates on the average value of gross fixed assets (GFA) for each class of assets. The closing balance of GFA of assets as on 31st March 2014 has been taken as the opening balance of GFA for the FY 2015-16.
- 6.52 Specified rates of depreciation have been applied to the average of such opening and closing GFA (which is the same in this case as no additional capitalisation has been approved) to arrive at the depreciation allowable for the FY 2015-16.
- 6.53 The Commission has allowed AAD to the Petitioner in accordance with Regulation 4.9.4 of JKSERC Transmission Regulations, 2012 by taking in to account the loan repayment and the depreciation allowed to the Petitioner during the year. For FY 2015-16, 1/10th of loan amount exceeds the loan repayment amount therefore, based on the regulations, the Commission has deducted loan repayment amount from the depreciation allowed during the year.
- 6.54 The following table summarises the computation of depreciation allowed to the Petitioner for FY 2015-16 in respect of Baglihar Hydro and Baglihar Transmission System.

Table 105: Approved Depreciation for FY 2015-16 (Rs Cr)

Particulars	Depreciation Amount
Baglihar Hydro	119.15
Baglihar Transmission	3.83
Total	122.98

- 6.55 The following table summarises the computation of advance against depreciation allowed to the Petitioner for FY 2015-16 in respect of Baglihar Hydro.

Table 106: Approved Advance against Depreciation for FY 2015-16 (Rs Cr)

Particulars	Advance against Depreciation
Baglihar Hydro	137.55
Baglihar Transmission	4.07
Total	141.62

Return on Equity

Baglihar Hydro Project

- 6.56 The Commission has allowed rate for return on equity at 14% as per Regulation 25 of JKSERC Hydro Generation Tariff Regulations, 2011. The return on equity has been determined at the equity base as determined in accordance with Regulation 18 of the above mentioned regulations. The equity base had been determined at the time of provisional approval of capital cost.

6.57 Regulation 18 provides:

“(1) In case of all generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan

Provided that in case actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

(2) The debt and equity amounts arrived at in accordance with (1) above shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and foreign Exchange Rate Variation.”

6.58 Regulation 25 provides:

“Return on equity shall be computed on the equity base determined in accordance with regulation 18 and shall be @ 14% per annum”

Baglihar Transmission System

6.59 The Commission has allowed return on equity to the Petitioner for FY 2015-16 in accordance with Regulation 4.10 of JKSERC (Transmission Tariff) Regulations, 2012 which states that:

“Return on equity shall be computed on the equity base determined in accordance with clause 4.7 above and shall be @ 15.5% per annum.”

6.60 The Commission has allowed return on equity for Baglihar Transmission System for FY 2015-16 at the rate of 15.50% upon the equity base determined at the time of provisional approval of capital cost.

6.61 The return on equity as approved by Commission for Baglihar Hydro Project and Baglihar Transmission System for FY 2015-16 is as given in the table below.

Table 107: Approved Return on Equity for FY 2015-16 (Rs Cr)

Particulars	Amount of Equity	Return on Equity
Baglihar Hydro	1411.23	197.57
Baglihar Transmission	43.44	6.73
Total	1454.67	204.30

Operation & Maintenance Expenses

Baglihar Hydro Project

- 6.62 The Commission has determined the Operations and Maintenance expenses (O&M) as per Regulation 26 (2) (a) of JKSERC (Hydro Generation Tariff) Regulations, 2011. The Regulation 26 (2) (a) is reproduced below:

“In case of the hydroelectric generating stations, which have not been in existence for a period of five years, the operation and maintenance expenses shall be fixed at 1.5% of the capital cost as admitted by the Commission and shall be escalated at the rate of 4% per annum from the subsequent year to arrive at operation and maintenance expenses for the base year 2010-11. The base operation and maintenance expenses shall be further escalated at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year.”

- 6.63 Accordingly, the O&M expenses of FY 2010-11 (which is equivalent to 1.5% of capital cost) have been escalated in each year to arrive at the O&M expenses for FY 2015-16.

Baglihar Transmission System

- 6.64 The Commission allowed O&M expenses for FY 2015-16 in accordance with Regulation 4.11 of JKSERC (Transmission Tariff) Regulations, 2012 which states that:

“4.11.1 In the case of existing Transmission Licensee, the Licensee in its filings shall submit the consolidated O&M expenses for the Base Year of the Control Period and for the two years preceding the Base Year. The O&M expenses for the Base Year shall be determined based on the latest audited accounts, best estimates of Licensee of the actual O&M expenses for relevant years and other factors considered relevant. The O&M expenses for the Base Year, if required, will be used for projecting the expenses for each year of the control period. The Licensee shall also propose determination of the admissible O&M expenses on the basis of per ckt-km of lines and per bay of substation for the base year and appropriate Inflation Factor Norms for operation and maintenance expenses for the first control period.

4.11.2 The O&M cost per ckt-km of lines and per substation bay for the Base Year of second and subsequent Control Periods shall be determined on the basis of actual O&M cost of lines and substations to be filed separately by the Licensee.”

- 6.65 The O&M expenses for FY 2015-16 has been calculated in the following manner:

- a) The actual O&M expenses as submitted by Petitioner for transmission function of the Baglihar project for FY 2011-12 and FY 2012-13 have been escalated each year to arrive at the base O&M expenses for FY 2015-16.
- b) The escalation factor has been taken as 9.12%, which is the average of the weighted average of CPI and WPI in the ratio of 55% and 45% respectively for past 5 years i.e. FY 2010-11 to FY 2014-15.
- c) The average of the escalated values arrived for the base year FY 2013-14 is taken and then further escalated by 9.12%, to arrive at O&M expenses of Rs 0.66 Cr for FY 2015-16.
- d) Accordingly, O&M expenses of Rs 0.23 Cr per bay for FY 2015-16 have been allowed for 2 bays set up as part of the transmission system. Further, O&M expenses have been computed for the 68 km double circuit transmission line at the rate of Rs.0.0029 Cr per km for FY 2015-16

6.66 The O&M expenses approved by the Commission are given in the table below.

Table 108: Approved amount for O&M expenses for FY 2015-16 (Rs Cr)

Particulars	O&M Expenses
Baglihar Hydro	103.83
Baglihar Transmission	0.66
Total	104.49

Interest on Working Capital

Baglihar Hydro Project

6.67 The Commission has determined the interest on working capital as per Regulation 27 of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“(1) *Working Capital shall cover:*

(a) *Operation and Maintenance expenses for one month;*

(b) *Maintenance spares @1 % of the historical cost escalated @ 6% per annum from the date of commercial operation and*

(c) *Receivables equivalent to two months of fixed charges for sale of electricity calculated on normative capacity index.*

(2) *Rate of interest on working capital shall be the short-term Prime Lending*

Rate of Jammu and Kashmir Bank as on 1.4.2011 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later. The interest on working capital shall be payable on normative basis notwithstanding that the utility has not taken working capital loan from any outside agency.”

- 6.68 The interest on working capital has been taken as 13.50% which is the PLR of J&K bank as on 1 April 2011.

Baglihar Transmission System

- 6.69 The Commission has allowed Interest on Working Capital to the Petitioner in accordance with Regulation 4.12 of the JKSERC (Transmission Tariff) Regulations, which states that:

“4.12.1 The working capital shall cover:

(i) Operation and maintenance expenses for one month;

(ii) Maintenance spares @ 1% of historical cost of assets at the beginning of the year and

(iii) Receivables equivalent to two months of transmission charges calculated on target availability level.”

(3) Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of Jammu and Kashmir Bank as 1st April of the year. The interest on working capital shall be payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from outside agency”

- 6.70 The Commission has computed working capital for FY 2015-16 after considering receivables equivalent to two months annual fixed charges, maintenance spares equivalent to 1% of historical cost and O&M expenses for one month. The interest on working capital has been computed considering rate of interest of 14.75% per annum which is the short term prime lending rate of the J&K Bank as on 1st April, 2014.
- 6.71 The working capital approved by the Commission for Baglihar Hydro and Baglihar Transmission System and interest thereon is given in the table below.

Table 109: Approved amount for Interest on Working Capital for FY 2015-16 (Rs Cr)

Particulars	Working Capital	Interest on Working Capital
Baglihar Hydro	197.04	26.60
Baglihar Transmission	3.83	0.72

Consultancy Charges

- 6.72 The Commission approves the apportionment of the total consultancy charges of Rs. 1.52 Cr as against the consultancy charges of Rs 1.74 Cr claimed by the Petitioner towards the following activities:
- Corporate Restructuring
 - Conversion to double entry system
 - IPO for JKSPDC
 - CDM Consultancy
 - Preparation of ARR & Tariff Petition
- 6.73 The Commission has also approved reimbursement of tariff filing fee of Rs 3 Lacs. This amount has been included as a part of consultancy charges approved for FY 2015-16.
- 6.74 The Commission has disallowed the consultancy charges of Rs 22 Lacs towards coal block allocation to JKSPDC. The Commission is of the view that the Petitioner should capitalize such costs along with the capital cost of the proposed coal based power station.
- 6.75 The total charges of Rs 1.52 Cr have been apportioned amongst the 8 HEPs, 10 old HEPs, Baglihar hydro project, Stakna HEP and Sanjak HEP on the basis of installed capacity and included in the AFC of the respective generating stations on this basis.
- 6.76 The consultancy charge including tariff filing fee approved by the Commission for inclusion in annual fixed charge for Baglihar HEP is given in the table below.

Table 110: Approved amount for Consultancy Charges for BHEP for FY 2015-16 (Rs. Cr)

Name of HEP	Share of Consultancy Charges
BHEP	0.89

Non-Tariff Income (NTI)

- 6.77 The Commission has determined Non-tariff income as per Regulation 21(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“Income, other than that through charges permitted by the Commission, and involving utilization of the utility's assets may be suitably accounted for by the Commission while determining the tariff”

- 6.78 The Commission based on the said regulations and projections made by the Petitioner has considered total non-tariff income earned by JKSPDC as Rs 30 Cr, which has been apportioned on the basis of the installed capacity of each station. The income calculated from each station is then deducted from the total ARR of respective station. The table below details the non-tariff income as approved by the Commission for FY 2015-16.

Table 111: Approved amount for non-tariff income for FY 2015-16 (Rs. Cr)

Particulars	Share in NTI
Baglihar station	17.67
Baglihar line	0.00

Annual Fixed Charges and Indicative Tariff for Baglihar Hydro and Baglihar Transmission System for FY 2015-16

- 6.79 The Commission has approved the annual fixed charges for Baglihar Hydro and Baglihar Transmission System for FY 2015-16. The AFC in both cases has been calculated by considering the various components of tariff as described above. The indicative tariff approved for the hydro project and transmission system for FY 2015-16 has been computed by taking into account net saleable energy of the HEP.
- 6.80 The following table provides the component wise break-up of total annual fixed charges approved and indicative tariff approved by the Commission for Baglihar Hydro and Baglihar Transmission System.

Table 112: Approved AFC and Indicative Tariff for FY 2015-16 (Rs Cr)

Description	Baglihar Hydro Project	Baglihar Transmission System
O&M Expenses	103.83	0.66
Interest on Loan	118.35	3.64
Depreciation	119.15	3.83
Advance against Depreciation (AAD)	137.55	4.07
Return on Equity	197.57	6.73
Interest on Working Capital	26.60	0.72
Consultancy Charges	0.89	-
Less: Non-tariff income	17.67	-
Net ARR	686.27	19.65
Net Saleable Energy in MU	2498.03	2498.03
Indicative Tariff Rs. per kWh	2.75	0.08

CHAPTER 7 – DETERMINATION OF AFC AND TARIFF FOR STAKNA HEP FOR FY 2015-16

- 7.1 Stakna HEP is a 4 MW hydro generating station that was transferred to JKSPDC by JKPDD in March 2011.
- 7.2 The Petitioner has made submissions with regard to AFC and tariff for FY 2015-16 for Stakna HEP in accordance with JKSERC Hydro Generation Tariff Regulations, 2011.

Project Cost

- 7.3 In the Tariff Order of FY 2012-13, the Commission had provisionally approved the capital cost of Rs. 22 Cr submitted by the Petitioner on a normative basis. The Commission further directed the Petitioner to arrange for a validation of the capital cost submitted by them through an independent valuer and submit the report of such independent valuation along with the next Tariff Petition.
- 7.4 The Commission also stated that any change in the base capital cost on account of the report submitted by the independent valuer shall be taken into account and the capital cost shall be trued up subsequently. Moreover, the same shall be applicable to the tariff components that are linked to the base capital cost.
- 7.5 The design energy of Stakna was also estimated on a normative basis by the Petitioner as 9.23 MU.
- 7.6 In compliance to the directions given by the Commission, the Petitioner in its Petitioner for determination Tariff for FY 2013-14, submitted the project cost of Rs 12.65 Cr as on 31.03.2012 and design energy of 19.52 MU validated by the independent valuer. The Commission after conducting a prudence check had approved the project cost and design energy submitted by the Petitioner in the Tariff Order for FY 2013-14.

Particulars of Stakna HEP

- 7.7 The table below provides particulars regarding Stakna HEP in respect of which AFC and tariff for FY 2015-16 is being approved in this chapter. Particulars such as approved capital cost, installed capacity, design energy, net saleable energy and date of Commissioning of Stakna HEP are summarised in the table below.

Table 113: Particulars regarding Stakna HEP

Name of HEP	Capacity in MW	Approved capital cost (Rs Cr)	Design Energy (MU)	Net Saleable Energy (MU)	Date of Commissioning
Stakna	4.00	12.65	19.52	19.33	1987

Interest on Loan

- 7.8 As the Petitioner has not claimed any interest on loan for FY 2015-16, the Commission has also not allowed any interest on loan for Stakna HEP for FY 2015-16.

Depreciation including Advance against depreciation

- 7.9 Depreciation has been computed for each class of assets in accordance with Regulation 23(1) of the (Hydro Generation Tariff) Regulations, 2011 at the rates specified in the Appendix to these regulations.
- 7.10 Depreciation has been computed on the average of the asset value at the beginning and end of FY 2015-16 based on the project cost now approved by the Commission. In the case of Stakna HEP, since there no additional capitalisation, the opening and closing value of gross fixed assets is the same.

Table 114: Particulars regarding classification of assets for depreciation calculation

Class of Assets	Useful Life (In Years)	Rate of Depreciation
Land	Perpetual	0%
Civil Works	35	2.57%
Building	50	1.80%
Power Plant	35	2.57%
Switch Gears	25	3.60%
Communication	15	6%

- 7.11 The Petitioner has not claimed AAD because there is no debt component in the capital cost of this HEP which has been transferred by JKPDD. Thus AAD has not been considered.
- 7.12 The amount of depreciation approved by the Commission for FY 2015-16 is given in the table below.

Table 115: Approved Depreciation for Stakna HEP for FY 2015-16 (Rs Cr)

Name of HEP	Depreciation Amount
Stakna	0.21

Return on Equity

- 7.13 The equity component is considered to be 30% of approved capital cost. Debt component has not been considered as this is a very old generating station, moreover it has been transferred to JKSPDC by JKPDD. Therefore, the Commission approves return on equity to be computed on an equity base of 30% of the approved capital cost.

- 7.14 The Commission has determined return on equity at 14% as per Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011.
- 7.15 The return on equity as approved by the Commission for Stakna HEP for FY 2015-16 is given in the table below.

Table 116: Approved Return on Equity for Stakna HEP for FY 2015-16 (Rs Cr)

Name of HEP	Equity Amount	Return on Equity
Stakna	3.79	0.53

Operation & Maintenance Expenses

- 7.16 In Tariff Order for FY 2014-15, the Commission had estimated the O&M expenses for FY 2014-15 after considering 1.50% of the approved capital cost for the base year i.e. FY 2012-13 and escalating the value by 4% per annum.
- 7.17 Accordingly, the O&M expenses for FY 2015-16 have been determined after considering the escalation of 4% per annum on the previous year approved O&M cost.

Table 117: Approved O&M expenses for Stakna HEP for FY 2015-16 (Rs Cr)

Name of HEP	O&M Expenses
Stakna	0.21

Interest on Working Capital

- 7.18 While scrutinizing the submission made by the Petitioner, the Commission observed that the Petitioner had incorrectly reported the normative working capital requirements on a higher side. The Petitioner had estimated the escalation in maintenance spares twice which resulted in higher working capital requirement as well as interest on working capital. The Commission thus re-computed the interest on working capital based on norms and considering escalation in maintenance spares only once.
- 7.19 The Commission has determined the interest on working capital as per Regulation 27 of JKSERC (Hydro Generation Tariff) Regulations, 2011.
- 7.20 The interest on working capital has been taken as 13.50% which is the PLR of J&K bank as on 1st April 2011. The working capital approved by the Commission for Stakna HEP and interest thereon is given in the table below.

Table 118: Approved amount for interest on working capital for Stakna HEP for FY 2015-16 (Rs. Cr)

Name of HEP	Working Capital approved	Interest on Working Capital
Stakna	0.29	0.05

Consultancy Charges

- 7.21 The Commission approves the apportionment of the total consultancy charges of Rs. 1.52 Cr as against the consultancy charges of Rs 1.74 Cr claimed by the Petitioner towards the following activities:
- Corporate Restructuring
 - Conversion to double entry system
 - IPO for JKSPDC
 - CDM Consultancy
 - Preparation of ARR & Tariff Petition
- 7.22 The Commission has also approved reimbursement of tariff filing fee of Rs 3 Lacs. This amount has been included as a part of consultancy charges approved for FY 2015-16.
- 7.23 The Commission has disallowed the consultancy charges of Rs 22 Lacs towards coal block allocation to JKSPDC. The Commission is of the view that the Petitioner should capitalize such costs along with the capital cost of the proposed coal based power station.
- 7.24 The total charges of Rs 1.52 Cr have been apportioned amongst the 8 HEPs, 10 old HEPs, Baglihar hydro project, Stakna HEP and Sanjak HEP on the basis of installed capacity and included in the AFC of the respective generating stations on this basis.
- 7.25 The consultancy charge including tariff filing fee approved by the Commission for inclusion in annual fixed charge for Stakna HEP is given in the table below.

Table 119: Approved amount for Consultancy Charges for Stakna for FY 2015-16 (Rs. Cr)

Name of HEP	Share of Consultancy Charges
Stakna	0.01

Non-Tariff Income (NTI)

- 7.26 The Commission has determined Non-tariff income as per Regulation 21(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“Income, other than that through charges permitted by the Commission, and involving utilization of the utility's assets may be suitably accounted for by the Commission while determining the tariff”

- 7.27 The Commission based on the said regulations and projections made by the Petitioner has considered total non-tariff income earned by JKSPDC as Rs 30 Cr, which has been apportioned on the basis of the installed capacity of each station. The income calculated from each station is then deducted from the total ARR of respective station. The table below details the non-tariff income as approved by the Commission for FY 2015-16.

Table 120: Approved amount for non-tariff income for FY 2015-16 (Rs. Cr)

Name of HEP	Share in NTI
Stakna	0.16

Annual Fixed Charges & Indicative Tariff for Stakna HEP for FY 2015-16

- 7.28 The Commission has approved the annual fixed charges for Stakna HEP for FY 2015-16. The AFC has been calculated by considering the various components of tariff as described above. The indicative tariff approved in respect of Stakna HEP for FY 2015-16 has been computed by taking into account net saleable energy.
- 7.29 The following table provides the component wise break-up of total annual fixed charges approved and indicative tariff approved by the Commission for Stakna HEP.

Table 121: Approved component wise break up of AFC for Stakna HEP for FY 2015-16 (Rs Cr)

Description	Amount
O&M Expenses	0.21
Interest on Loan	0.00
Depreciation	0.21
Advance against Depreciation (AAD)	0.00
Return on Equity	0.53
Interest on Working Capital	0.05
Consultancy Charges	0.01
Total Annual Fixed Cost	1.01
Less: Non-tariff income	0.16
Net ARR	0.85
Net Saleable Energy in MU	19.33
Indicative Tariff Rs. per kWh	0.44

CHAPTER 8 – DETERMINATION OF AFC AND TARIFF FOR SANJAK HEP FOR FY 2015-16

- 8.1. Sanjak HEP is a 1.26 MW hydro generating station that was declared commercially operational on July 03, 2013.
- 8.2. Sanjak HEP was energized by JKSPDC in October 2011. It had been included in the Tariff Petition submitted for FY 2013-14, however, it had not been declared commercially operational at the time of determination of tariff for FY 2013-14.
- 8.3. The Commission in the Tariff Order for FY 2013-14 had stated that the AFC and tariff with respect to Sanjak HEP should be submitted by the Petitioner in the next Tariff Petition filed by them and that it shall be approved with retrospective effect from the date of declaration of CoD.
- 8.4. The Commission in Tariff Order for FY 2014-15 approved tariff applicable from the date of declaration of commercial operation of the HEP.
- 8.5. Now the Commission approves the AFC and Tariff applicable for FY 2015-16.

Project Cost

- 8.6. The Commission in the Tariff Order for FY 2014-15 dated 21st February 2014 had directed the Petitioner to get the valuation of the capital cost of Sanjak HEP through an independent valuer and submit the report of the independent valuer along with a Petition for true up of AFC and indicative tariff for FY 2015-16.
- 8.7. The Petitioner has now submitted a Report on valuation of fixed assets of Sanjak HEP conducted by an independent auditor. The Petitioner also submitted a Report on Validation of Design Energy for Sanjak HEP conducted by an independent auditor.
- 8.8. The valuation of the fixed assets has been done on 'Net Replacement Value' basis as on 31 March 2014. The capital cost of Sanjak HEP as per the valuation report submitted by the Petitioner works out to be Rs 20.01 Cr. The asset wise details of the valuation as per the report submitted by the Petitioner is as follows:

Table 122: Capital Cost of Sanjak HEP as per the valuation Report submitted by the Petitioner

Description	Capital Cost(Rs Cr)
Land	0.26
Building & Structures	
<i>Hydraulic Works</i>	9.18
<i>Office / Quarters</i>	0.73
Road	0.33
Electrical & Mechanical Items	9.38
Office Equipment	0.13
Capital Cost	20.01

- 8.9. The Petitioner submitted that the project cost for Sanjak HEP has been considered as Rs 15.55 Cr on the basis of expenditure incurred and valuation report.
- 8.10. The Commission scrutinized the reports submitted by the Petitioner. The Commission observes that the Petitioner has proposed the capital cost as per the depreciated value of the asset assessed by the independent valuer as on 31st March 2014 against the reinstatement cost of Rs 20.01 Cr. However the reinstated cost and depreciated value has not been determined on the basis of generally accepted auditing standards.
- 8.11. In light of the above, the Commission is constrained to continue with the provisional capital cost for Sanjak HEP determined in the Tariff Order for FY 2014-15 till audited figures are furnished as a supporting document to the independent valuers report. Accordingly the capital cost of the Sanjak HEP is again provisionally considered as Rs 9.70 Cr.
- 8.12. The Commission accepts the design energy of 4.46 MUs calculated by the independent auditor using the methodology approved by the Commission.

Particulars of Sanjak HEP

- 8.13. The table below provides particulars regarding Sanjak HEP in respect of which AFC and tariff for FY 2015-16 is being approved in this chapter. Particulars such as provisionally approved capital cost, installed capacity, design energy, net saleable energy and date of Commissioning of Sanjak HEP are summarised in the table below.

Table 123: Particulars regarding Sanjak HEP

Capacity in MW	Capital cost (Rs Cr)	Subsidy (Rs Cr.)	Capital cost net of subsidy (Rs Cr)	Design Energy (MU)	Net Saleable Energy (MU)	Date of Commissioning
1.26	9.70	0.59	9.11	4.46	4.41	July 2013

Interest on Loan

- 8.14. The 18(1) of the (Hydro Generation Tariff) Regulations, 2011 mandates that for the purpose of tariff determination the amount of equity shall be limited to 30% of the capital cost and the balance shall be considered as normative loan. Further the Regulation 18(2) mandates that the amount of debt and equity computed in accordance with provisions of Regulation 18(1) shall be used for calculating interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.

- 8.15. In accordance with the above mentioned principle, the amount of normative loan to be considered for provision of interest shall be equal to 70% of the capital cost net of subsidy.
- 8.16. Under the provisions of the Regulation 22 of the (Hydro Generation Tariffs), 2011 for the purpose of calculation of interest on loan, the outstanding loan amount shall be worked out as the gross loan as per Regulation 18 (1) minus cumulative repayment as admitted by the Commission. Future repayments shall be worked out on normative basis.
- 8.17. The interest rate, term of loan, moratorium period and repayment schedule for the normative loans has been considered the same as those pertaining to the loans actually obtained for the project.
- 8.18. The detail of interest approved by the Commission is given in the table below:

Table 124: Approved Interest on Loan for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	Amount
Sanjak	0.64

Depreciation including Advance against depreciation

- 8.19. Depreciation has been computed for each class of assets in accordance with Regulation 23(1) of the (Hydro Generation Tariff) Regulations, 2011 at the rates specified in the Appendix to these regulations.
- 8.20. The Commission has apportioned the approved capital cost in the same ratio as the asset class-wise cost submitted by the Petitioner.
- 8.21. Depreciation has been computed on the average of the asset value at the beginning and end of FY 2015-16 based on the project cost provisionally approved by the Commission.

Table 125: Particulars regarding classification of assets for depreciation calculation

Class of Assets	Useful Life (In Years)	Rate of Depreciation
Land	Perpetual	0%
Civil Works	35	2.57%
Building	50	1.80%
Power Plant	35	2.57%
Switch Gears	25	3.60%
Communication	15	6%

- 8.22. The amount of depreciation approved by the Commission for FY 2015-16 is given in the table below.

Table 126: Approved Depreciation for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	Depreciation amount
Sanjak	0.25

- 8.23. The Commission has determined Advance Against Depreciation (AAD) in accordance with the Regulation 24 of JKSERC (Hydro Generation Tariff) Regulations, 2011 which are reproduced below:

“In addition to allowable depreciation, utility shall be entitled to an advance against depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per Regulation 22 subject to a ceiling of 1/10th of loan amount as per regulation 18 minus depreciation as per schedule.

Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year:

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.”

- 8.24. The amount of AAD as approved by the Commission for FY 2015-16 is given in the table below.

Table 127: Approved Advance against Depreciation for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	AAD amount
Sanjak	0.25

Return on Equity

- 8.25. The Commission has determined return on equity at 14% as per Regulation 25 of JKSERC (Hydro Generation Tariff) Regulations, 2011. The return on equity has been determined at the equity base as determined in accordance with Regulation 18 of the above mentioned regulations.

- 8.26. Regulation 18 states that:

“(1) In case of all generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan

Provided that in case actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

(2) The debt and equity amounts arrived at in accordance with (1) above shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and foreign Exchange Rate Variation.”

8.27. Regulation 25 states that:

“Return on equity shall be computed on the equity base determined in accordance with regulation 18 and shall be @ 14% per annum”

8.28. The return on equity as approved by the Commission for Sanjak HEP for FY 2015-16 is given in the table below.

Table 128: Approved Return on Equity for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	Equity Amount	Return on Equity
Sanjak	2.56	0.36

Operation & Maintenance Expenses

8.29. Regulation 2(iii) of Notification No. JKSERC/13/2011 dated April 20, 2011 states that:

In relaxation of Regulation 26 (2), the actual O&M expenses shall not be more than 3% of the capital cost. In addition, actual insurance charges will be allowed subject to a ceiling of 1 % of the capital cost.

8.30. Accordingly the Commission has approved O&M expenses at 3 % of the approved capital cost for FY 2014-15 due to absence of historical information.

8.31. For approving the O&M expenses for FY 2015-16, the O&M expenses of FY 2014-15 have been escalated at the rate 4%.

Table 129: Approved O&M expenses for Sanjak HEP for FY 2015-16 (Rs Cr)

Name of HEP	O&M Expenses
Sanjak	0.16

Interest on Working Capital

8.32. The Commission has determined the interest on working capital as per Regulation 27 of JKSERC (Hydro Generation Tariff) Regulations, 2011.

8.33. The interest on working capital has been taken as 14.75% which is the PLR of J&K bank as on 1st April 2013. The working capital approved by the Commission for Sanjak HEP and interest thereon is given in the table below.

Table 130: Approved Amount for interest on working capital for Sanjak HEP for FY 2015-16 (Rs. Cr)

Name of HEP	Working Capital approved	Interest on Working Capital
Sanjak	0.42	0.06

Consultancy Charges

8.34. The Commission approves the apportionment of the total consultancy charges of Rs. 1.52 Cr as against the consultancy charges of Rs 1.74 Cr claimed by the Petitioner towards the following activities:

- a) Corporate Restructuring
- b) Conversion to double entry system
- c) IPO for JKSPDC
- d) CDM Consultancy
- e) Preparation of ARR & Tariff Petition

8.35. The Commission has also approved reimbursement of tariff filing fee of Rs 3 Lacs. This amount has been included as a part of consultancy charges approved for FY 2015-16.

8.36. The Commission has disallowed the consultancy charges of Rs 22 Lacs towards coal block allocation to JKSPDC. The Commission is of the view that the Petitioner should capitalize such costs along with the capital cost of the proposed coal based power station.

8.37. The total charges of Rs 1.52 Cr have been apportioned amongst the 8 HEPs, 10 old HEPs, Baglihar hydro project, Stakna HEP and Sanjak HEP on the basis of installed capacity and included in the AFC of the respective generating stations on this basis.

8.38. The consultancy charges including tariff filing fee approved by the Commission for inclusion in annual fixed charge for Sanjak HEP is given in the table below.

Table 131: Approved amount for Consultancy Charges for Sanjak HEP for FY 2015-16 (Rs. Cr)

Name of HEP	Share of Consultancy Charges
Sanjak	0.0025

Non-Tariff Income (NTI)

8.39. The Commission has determined Non-tariff income as per Regulation 21(2) of JKSERC (Hydro Generation Tariff) Regulations, 2011 which has been reproduced below.

“Income, other than that through charges permitted by the Commission, and involving utilization of the utility's assets may be suitably accounted for by the Commission while determining the tariff”

- 8.40. The Commission based on the said regulations and projections made by the Petitioner has considered total non-tariff income earned by JKSPDC as Rs 30 Cr, which has been apportioned on the basis of the installed capacity of each station. The income calculated from each station is then deducted from the total ARR of respective station. The table below details the non-tariff income as approved by the Commission for FY 2015-16.

Table 132: Approved amount for Non-Tariff Income for FY 2015-16 (Rs. Cr)

Name of HEP	Share in NTI
Sanjak	0.05

Annual Fixed Charges & Indicative Tariff for Sanjak HEP for FY 2015-16

- 8.41. The Commission has provisionally approved the annual fixed charges for Sanjak HEP for FY 2015-16. The AFC has been calculated by considering the various components of tariff as described above. The indicative tariff approved in respect of Sanjak HEP for FY 2015-16 has been computed by taking into account net saleable energy.
- 8.42. The following table provides the component wise break-up of total annual fixed charges approved and indicative tariff approved by the Commission for Sanjak HEP.

Table 133: Approved component wise break up of AFC for Sanjak HEP for FY 2015-16 (Rs Cr)

Description	Amount
O&M Expenses	0.16
Interest on Loan	0.64
Depreciation	0.25
Advance against Depreciation (AAD)	0.25
Return on Equity	0.36
Interest on Working Capital	0.06
Consultancy Charges	0.0025
Total Annual Fixed Cost	1.72
Less: Non-tariff income	0.05
Net ARR	1.67
Net Saleable Energy in MU	4.41
Indicative Tariff Rs. per kWh	3.79

CHAPTER 9 – SUMMARY OF APPROVED AFC AND INDICATIVE TARIFF AND AVERAGE TARIFF FOR FY 2015-16

9.1 The following table provides a summary of the AFC and tariff approved by the Commission in respect of 8 HEPs, 10 HEPs, Baglihar Hydro Project and Baglihar Transmission Line, Stakna HEP and Sanjak HEP for FY 2015-16.

9.2 This table also provides the average tariff applicable to the generating stations computed on the basis of the total AFC approved and the net saleable energy of all the generating stations taken together. However, this average tariff does not include the approved AFC and the design energy applicable to the Baglihar Transmission System.

Table 134: Approved AFC (Rs Cr) and Indicative Tariff (Rs/kWh) for all 21 generating stations and Baglihar Transmission Line for FY 2015-16

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int on WC	Cons. Chgs	Less: NTI	AFC	Net Saleable Energy (MU)	Indicative Tariff (Rs/kWh)
USHP-II	10.63	-	11.50	-	18.27	2.34	0.21	4.12	38.83	442.02	0.88
Chenani-III	1.49	-	1.41	-	2.31	0.30	0.01	0.29	5.23	36.34	1.44
Sewa-III	2.06	-	1.76	-	2.81	0.37	0.02	0.35	6.67	32.73	2.04
Bhaderwah	0.21	-	0.30	-	0.34	0.05	0.00	0.08	0.82	9.35	0.88
Pahalagam	1.17	0.29	1.76	-	2.35	0.28	0.01	0.24	5.62	17.13	3.28
Haftal	0.34	0.03	0.42	0.55	0.58	0.09	0.00	0.04	1.97	4.83	4.08
Marpachoo	0.27	0.03	0.35	0.43	0.47	0.07	0.00	0.03	1.59	3.75	4.24
Igo-Mercellong	1.26	-	1.31	-	1.95	0.24	0.01	0.12	4.65	15.72	2.96
Karnah	2.49	-	0.35	-	0.57	0.14	0.00	0.08	3.47	11.22	3.09
USHP-I	4.97	-	0.58	-	1.94	0.35	0.04	0.89	6.99	105.34	0.66
Lower Jhelum	12.50	-	5.30	-	17.69	1.93	0.21	4.12	33.51	602.14	0.56
Ganderbal	3.93	-	-	-	0.67	0.20	0.03	0.59	4.24	89.25	0.48
Iqbal Bridge	2.24	-	0.65	-	1.03	0.17	0.01	0.15	3.95	21.08	1.87
Bazgo	0.21	-	0.06	-	0.09	0.02	-	0.01	0.37	1.08	3.43
Sumoor	0.11	-	0.02	-	0.03	0.01	0.00	0.00	0.17	0.45	3.78
Hunder	0.27	-	0.07	-	0.12	0.02	0.00	0.02	0.46	1.76	2.61
Chenani-II	0.40	-	0.30	-	0.49	0.06	0.00	0.08	1.17	11.88	0.98
Chenani-I	3.82	-	1.65	-	3.30	0.43	0.05	0.91	8.34	108.92	0.77

Name of HEP	O&M	Int on Loan	Dep	AAD	RoE	Int on WC	Cons. Chgs	Less: NTI	AFC	Net Saleable Energy (MU)	Indicative Tariff (Rs/kWh)
Baglihar HEP	103.83	118.35	119.15	137.55	197.57	26.60	0.89	17.67	686.27	2498.03	2.75
Baglihar Transmission Line	0.66	3.64	3.83	4.07	6.73	0.72	0.00	-	19.65	2498.03	0.08
Stakna	0.21	-	0.21	-	0.53	0.05	0.01	0.16	0.85	19.33	0.44
Sanjak	0.16	0.64	0.25	0.25	0.36	0.06	0.00	0.05	1.67	4.41	3.79
Total AFC/ Average Tariff *									816.84	4036.76	2.02

*Excluding transmission ARR

CHAPTER 10 - OTHER ISSUES

- 10.1 The Petitioner apart from seeking approval for fixed cost and tariff for 21 HEPs and for Baglihar Transmission line for FY 2015-16 has also raised other issues and requested the Commission to issue suitable directives/order in regards to the same.

Water usage charges

- 10.2 The Commission has taken into view Order No. WRRRA/01/2011 dated 1st February 2011 passed by the State Water Resource Regulatory Authority and as extended from time to time. The Commission has also considered the submission made by the Petitioner in this regard.
- 10.3 The J&K State Water Resources Regulatory Authority has revised water usage charges vide its Order No. 89/JKSWRRA of 2014 dated 22nd December 2014. Accordingly, JKSPDC has estimated the water usage charges for each of the years 2015 and 2016 as Rs. 318.88 Cr.
- 10.4 The Commission approves the reimbursement of water usage charges payable by the Petitioner in light of the order passed by the State Water Resource Regulatory Authority. The Petitioner is hereby allowed to claim the water usage charges paid by them as a pass through from JKPDD.

Recovery of Taxes and Duties

- 10.5 The Petitioner in its Petition has requested the Commission to approve the actual income tax paid for FY 2014-15 for reimbursement by JKPDD.
- 10.6 The Commission is of the view that only income tax related to the core business of the utility shall be allowed as pass through in tariff and be recovered from the beneficiaries as provided in Regulation 7 (1) of the JKSERC (Hydro Generation Tariff) Regulations, 2011. Thus it is required that the Petitioner submits separate details of income tax pertaining to the core business of the utility.
- 10.7 Further for purposes of recovery of income tax from beneficiaries, the Petitioner has to submit separate details of income tax apportioned to each project/ station as provided in Regulation 7 of the above-mentioned regulations and same has been reproduced below:

“Tax on Income:-

(1) Tax on the income streams of the utility from its core business shall be computed as an expense and shall be recovered from the beneficiaries.

(2) Any under-recoveries or over-recoveries of tax on income shall be adjusted every year on the basis of income tax assessment under the Income Tax Act, 1961 as certified by the statutory Auditors:

Provided further that the generating station-wise profit before tax as estimated for a year in advance shall constitute the basis for distribution of the corporate tax liability to all the generating stations:

Provided further that the benefits of tax-holiday as applicable in accordance with the provisions of the Income- Tax Act, 1961 shall be passed on to the beneficiaries:

Provided further that in the absence of any other equitable basis, the credit for carried forward losses and unabsorbed depreciation shall be given in the proportion as provided in the second provision to this regulation:

Provided further that the income tax allocated to the generating station shall be charged to the beneficiaries in the same proportion as Annual Capacity charges”

- 10.8 In view of above provisions of the JKSERC (Hydro Generation Tariff) Regulations, 2011, the Commission is of the view that the Petitioner should provide separate accounts for each project/ station giving details of revenue, expenditure & income tax charged along with details of tax holiday applicable to each project & other provisions of the Income Tax Act.
- 10.9 Accordingly, the Commission directs the Petitioner to submit the details of revenue, expenditure and income tax for each project/ station duly certified by Chartered Accountant along with the next tariff petition for regulatory purpose and charging of Income tax by each station related to core activity (generation).

Approval of O&M expenses w.r.t Gas Turbines I & II

- 10.10 The Petitioner has submitted O&M expenses for gas stations for FY 2013-14 for Commission's perusal.
- 10.11 The Commission in its earlier orders has already specified that as long as the gas stations are not operational on commercial basis, the operation and maintenance cost of the stations which are run on emergent or disaster management basis are to be borne by the state government.
- 10.12 Further, the Commission notes with concern that this issue has been brought before the Commission repeatedly. The Commission reiterates that the Principal Secretary to the Government, Power Development Department should convene a meeting of concerned parties i.e. JKSPDC and JKPDD for early resolution of this issue. The compliance should be reported to the Commission within a period of six months.

Transfer of Mohra receiving station

- 10.13 The Petitioner has requested the Commission to pass suitable orders to the T&D utility for taking over the Mohra receiving station.
- 10.14 The Commission in the Tariff Order for FY 2014-15 had directed the JKPDD to take over the assets of Mohra receiving station within 3 months from issue of Tariff Order failing which the O&M charges shall be reimbursed by the Utility to the Petitioner. The modalities for transfer of assets were to be worked out by the Principal Secretary to the Government, JKPDD.
- 10.15 The Commission reiterates its earlier directions and directs that the Principal Secretary to the Government, JKPDD shall sort out the issue within a period of three months. The compliance shall be reported to the Commission.

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

- 10.16 The Petitioner submitted that its Board of Directors had approved the programme for taking up Renovation & Modernization of seven HEPs at a cost of Rs 208.96 Cr and that the work had started in FY 2009-10. The Petitioner also submitted that the State Government had accorded approval for taking up the RMU of the seven major HEPs vide letter dated 14th January 2008.
- 10.17 The Petitioner further submitted that since the RMU and stabilization works were still going on, it was not seeking any additional capitalization on that account and that the same shall be sought after completion of the respective projects.
- 10.18 The Commission is concerned about the slow pace of progress towards completion of RMU and Stabilization works. The Commission directs the Petitioner to submit a project wise status report regarding original work schedule, actual completion schedule, reason for delays and cost over runs (if any) within three months of the date of notification of this Order.

Recovery of Arrears on account of Energy Charges

- 10.19 The Commission is concerned with the amount of arrears pending with JKPDD for payment to JKSPDC. The arrears have a detrimental impact on the credit rating of the corporation and consequently impacts its ability to attract cheaper financing. The Commission has already issued directives to resolve this matter. The Corporation needs to pursue the matter vigorously with the Utility for early recovery of the arrears and if necessary invoke various legal remedies available for resolution of this issue.

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CHAPTER 11 - DIRECTIVES

- 11.1 The Commission, based on its analysis of the AFC & Tariff Petition and the compliance to previous directives submitted by the Petitioner and information and suggestions received during the public hearing process on the functioning of the Petitioner, directs the Petitioner to comply with the directives given in this order.
- 11.2 The Commission shall be holding quarterly review meetings for monitoring the progress/ status on each of the directives given in this order. The Petitioner shall submit quarterly progress report prior to the review meetings to be held by the Commission.
- 11.3 The Commission had given a number of directives in the Tariff Order dated 21st February 2014. The Petitioner submitted the status of the compliance to these directives as part of its Tariff Petition. The summary of the Directives, the status submitted by the Petitioner and views/ further directives of the Commission are detailed in the following table:

Table 135: Compliance of Directives

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
1.	Performance Improvement measures:		
	<ul style="list-style-type: none"> The Commission directs the Petitioner to complete the benchmarking study and Performance audit of all its plants within ten months of the date of publishing of this Order. The Commission further directs the Petitioner to submit a quarterly report on the status of the study until the completion report has been submitted to the Commission. 	<ul style="list-style-type: none"> The Petitioner submitted that it has been decided to assign the benchmarking studies and performance audit work of all power projects of JKSPDC to AHEC, IIT Roorkee. Necessary financial outlay has been provided for the assignment in the current years works programme based on offers received from AHEC, IIT Roorkee. Letter of Award for this assignment has been issued by the Petitioner. On receipt of initial report from IIT Roorkee, the submission of the quarterly progress reports shall be made. 	Since the assignment stands allotted to AHEC, IIT Roorkee, the Commission emphasises to the get the job completed expeditiously during FY 2015-16 and keep the Commission posted with the progress.
2.	Original capital cost & additional capitalisation of BHEP-Stage I & Baglihar Transmission System based on audited accounts		
	<ul style="list-style-type: none"> The Petitioner is directed to submit the approved DPR, year wise audited accounts, source wise details of funding, actual repayment schedule, subsidy sanctioned/ received and other relevant documents of statutory 	<ul style="list-style-type: none"> The Petitioner submitted that initially Baglihar Hydro Electric Project was with NHPC. NHPC had obtained most of the clearances for the project. Later on it was taken over by J&K State for implementation in state 	The Petitioner is considering credit of the In-firm power generating from the projects before the COD only to the extent of Rs. 25.97 Cr, actually received by the Petitioner on account of sale of infirm power, as against Rs. 232.57 Cr as worked

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
	<p>approvals related to original capital cost & additional capitalisation of BHEP-Stage I & Baglihar Transmission System to the Commission.</p>	<p>sector. The DPR of 450 MW BHEP-I was prepared by SNC Lavalin in association with J.P. Associates based on which the cost for civil & Hydro Mechanical works were worked out. The cost for Civil & Hydro Mechanical works at price level 1997 worked out as Rs 1634.12 crore (Has been submitted to JKSERC). A contract agreement was executed between JKSPDC & Jaiprakash Associates Ltd in April, 1999 for execution of Civil & Hydro Mechanical works. (submitted to JKSERC). Consequent to the happenings of force majeure events & damage suffered by the project, time extensions were granted to the contractor. The project cost was revised by the JKSPDC & which was further scrutinized & recommended by a Committee set up by the Ministry of Power, GOI, under the Chairmanship of Member Hydro, CEA. Consequently the state Government approved the revised cost of Rs. 5200 crore for Baglihar HEP-I vide Govt. order No. 166-PDD of 2008 dated 25.04.2014. Thereafter, the project required some further works and the project was commissioned for commercial operation on 01.04.2009, the project cost was revised due to additional works incurred to Rs. 5827.00 duly recommended by Cost Engineering Committee and BoDs. Copy of Board resolution has been submitted to JKSERC</p> <ul style="list-style-type: none"> Regarding audited accounts, the Petitioner submitted that the accounts of JKSPDC have been updated by CAG upto 2010-11, copy of which has been submitted to JKSERC. The audit of accounts/ balance sheets for the year 2011-12 2012-13 & 2013-14 is underway. Provisional accounts copy for the F.Y. 2011-12 & 2012-13 have been submitted to JKSERC. The details of Source of funding, repayment schedule, subsidy etc. in respect of the project has been submitted to JKSERC. 	<p>out by the Commission.</p> <p>The Petitioner is directed to vigorously pursue the matter for recovery of balance cost of infirm power from JKPDD.</p> <p>The Petitioner is required to submit the audited capital cost of the Baglihar HEP as on 31.03.2015 along with the next Tariff Petition.</p>

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
3	Additional Capitalisation of Pahalgam HEP		
	The Commission directs the Petitioner to submit the audited capital cost of the works undertaken under additional capitalization of Pahalgam HEP and details of financing of the same along with the next tariff petition.	JKSPDC has incurred an expenditure of Rs. 435.49 lacs (ending January, 2014) on capital works for augmenting capacity of the project from 3.0 MW to 4.50 MW by installing additional unit of 1.50 MW. Copy of the auditors certificate has been submitted to JKSERC. The Project has been funded as under:- i. JKSPDC own Sources= Rs. 368.74 lacs. ii. Subsidy from MNRE= Rs. 66.75 lacs.	No further action is required on this directive
4	Income Tax		
	The Commission directs the Petitioner to submit the details of revenue, expenditure and income tax for each project/ station duly certified by Chartered Accountant along with the next tariff petition for regulatory purpose and charging of Income tax by each station related to core activity (generation).	Copy of provisional P&L & Tax liability certificate for the F.Y. 2013-14 provisional balance sheet for the financial year 2013-14 was submitted by the Petitioner.	The Commission again directs the Petitioner to submit separate details of income tax pertaining to the core business of the utility along with next tariff petition. Further for purposes of recovery of income tax from beneficiaries, the Petitioner is directed to submit the details of revenue, expenditure and income tax for each project/ station duly certified by Chartered Accountant along with the next tariff petition for regulatory purpose.
5.	Valuation of capital cost of Sanjak HEP		
	The Commission directs the Petitioner to get the valuation for the capital cost of Sanjak HEP through independent technical consultants and submit the Report to the Commission along with the next tariff petition. The report should highlight the details of the design energy and Commercial Operation Date (CoD) and the audited capital cost & indicative tariff.	Copy of Valuation report duly prepared by M/s RSA & Co was submitted by the Petitioner.	The Petitioner is directed to submit the audited capital cost for Sanjak HEP along with the next Tariff Petition.
6	Details regarding consultancy charges		
	<ul style="list-style-type: none"> The Commission directs the Petitioner to submit the project-wise total cost of the consultancy and the year-wise and project-wise details of 	The Consultancy charges as indicated in the current petition & previous petition are being charged on proportionate basis as per the capacity of the project. The details of year-	No further action is required.

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
	<p>actual payments made along with the achievements vis-a-vis targets.</p> <ul style="list-style-type: none"> The details of payments made should be duly certified by the respective approving authority. The Petitioner is directed to submit these details along with the next tariff Petition. 	<p>wise consultancy charges duly certified by approving Authority have been submitted to JKSERC.</p>	
7	Report on benefits accrued from swapping of loans		
	<p>The Commission directs the Petitioner to submit details of loans swapped, loan tenure, interest rate differential, and analysis of the benefits accrued from swapping of such loans along with the next Tariff Petition and their impact on the Tariff for future years.</p>	<p>Details have been submitted to JKSERC.</p>	<p>The benefits accrued from swapping of loans have been submitted by the Petitioner</p>
8	Report on analysis of breakdown of plants in FY 2012-13 and FY 2013-14		
	<p>The Commission directs the Petitioner to submit a Report on the major breakdowns in its plants during FY 2012-13 and FY 2013-14. The Report shall detail the cause of breakdown, cost of breakdown in terms of R&M works required, the loss in generation due to break down and the action taken to prevent such breakdowns in the future.</p>	<p>Project wise report on analysis of Breakdown for the financial year 2012-13 & 2013-14 has been submitted to JKSERC.</p>	<p>The Petitioner is directed to furnish details of remedial measures taken and SOPs adopted to avoid break downs..</p>
9	Status Report on R&M works and generation at USHP-II		
	<p>The Commission directs the Petitioner to submit the status report on the works undertaken for restoration of Wangat Link (water conductor) and also construction of alternate spill channel along with the month wise actual generation from the Unit by 30th October 2014.</p>	<p>Status report on Restoration of Wangath Link Canal (Water Conductor) & Construction of alternate spill channel has been submitted to JKSERC. The works are likely to be completed by mid-2015.</p>	<p>The Petitioner is directed to take all necessary measures to ensure completion and commissioning as per the committed schedule. The Commission in the meanwhile be apprised of the progress on bi-monthly basis.</p>
10.	Corporate Social Responsibility		
	<p>The Commission directs the Petitioner to submit a working paper on Corporate Social Responsibility incorporating a five year action program, the challenges envisaged and the cost benefit analysis of the same within six months of the issue of this Tariff Order.</p>	<p>The Corporation wants to imbibe best practices on Corporate Social Responsibility adopted by other PSUs/ Pvt. Sector. For this purpose similar documents available in the public domain have been studied. A working paper on these lines is being prepared which shall be submitted to BoDs for the approval. The same shall be submitted to the commission after receiving the mandatory approvals.</p>	<p>The Commission directs the Petitioner to notify draft Policy on CSR activities for soliciting suggestions..</p>

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
11	Status Report on RM&U and stabilisation works		
	The Commission directs the Petitioner to submit a project wise status report regarding original work schedule, actual completion schedule, reason for delays and cost over runs (if any) within three months of the date of publishing of this Order.	Status Report on RM&U and stabilisation works has been submitted to JKSERC.	The Commission is concerned about the slow pace of progress towards completion of RMU and Stabilization works. The Commission directs the Petitioner to submit a project wise status report regarding original work schedule, actual completion schedule, reason for delays and cost over runs (if any) within three months of the date of notification of this Order.
12	Details of Subsidy for each project		
	The Commission directs the Petitioner to submit actual details of subsidy received from State/ Central Government for each project along with next tariff petition.	Details of project wise subsidy received have been submitted by the Petitioner.	The relevant information has been furnished and taken note of.
13	Modern Tools for monitoring implementation of New Projects		
	The Commission directs the Petitioner to use modern tools for monitoring implementation of new projects such as Baglihar - Stage II, Lower Kalnai, Parnai, Dah, and Hanu and for the upcoming stations like New Ganderbal so as to avoid slippage in the time schedule for completion and commissioning of these projects.	<p>JKSPDC normally executes projects on EPC basis. The onus of completing the project as per pre-defined completion time lies with the EPC contractor. The monitoring of the project is then made as per the agreed timelines</p> <p>For BHEP-II, Lahmeyer International on behalf of JKSPDC is using modern tools i.e. Primavera-6 & Microsoft Project 2010 for monitoring. (Copy of Monitoring report of Lahmeyer International has been submitted to JKSERC)</p> <p>For other projects being implemented in the state sector, the EPC contractor is required to submit PERT charts, which are used as a reference point of monitoring, slippage if any is monitored by JKSPDC invariably on the basis of PERT chart submitted by the EPC contractor. To further refine the process the Corporation has initiated the process of independent monitoring of the projects through ERP solutions. In the first phase the accounting model has been implemented and JKSPDC has fully migrated to Double Entry Accounting system. In the second phase JKSPDC</p>	The Petitioner should explore the possibility of creating a proper monitoring mechanism for real time monitoring of the implementation of new projects on the pattern of the NHPC which has established online project monitoring centre at corporate office to support video conferencing, live video feedbacks from cameras installed at strategic locations of under construction projects and establish facilities for online web casting for live broadcasting of important events / comments / briefing by senior management across the organisation.

S.No.	Directive in T.O FY 2014-15	Status submitted by the Petitioner	Views of the Commission / further directives
		intends to implement project monitoring, Inventory Management, Payroll system etc. for which gap analysis (Specific requirements) is being conducted.	
14	Establishment of training schools		
	<ul style="list-style-type: none"> The Commission in its earlier orders had directed the Petitioner to expedite the creation of training and capacity building centres in all the major power projects. The Commission takes a serious notice of the fact that there has been no positive development in this direction and no proper training centre has been established so far in any of the major stations with capacity of 100 MW or more. The Commission again directs the Petitioner to take all necessary steps for setting up such centres for imparting training to the staff in all major power projects of the Petitioner. It is all the more important as several new projects are coming up in the State and the Corporation would be requiring highly trained and skilled staff to operate and maintain such projects. 	<ul style="list-style-type: none"> To begin with JKSPDC proposes to set up two training schools, one at BHEP & the other at LJHP. For both these schools funds have been earmarked in the Current years works programme. BHEP: Existing infrastructure is proposed to be upgrade for which a DPR of Rs. 48.00 lacs has been approved for implementation. The works are in tendering stage. LJHP: The DPR has been prepared & is under scrutiny for according approval. The works are targeted to be tendered out after assembly elections. Besides the proposed training schools, the establishment of a hydro training institute at Kangan is also underway for which MoU has been signed between JKSPDC & NHPC. 	<p>The Petitioner is directed to immediately start training of staff at existing premises in the projects by outsourcing trainings, if needed. An action taken report on the matter should be submitted within 3 months of notification of this Order.</p> <p>The Commission also directs that the Petitioner should take all necessary measures regarding compliance with the commitment made by it to set up and start operations of the training facilities at BHEP and LJHP within three months.</p> <p>The Petitioner is also directed to prepare an action plan for training of employees on operation and maintenance of generating stations and report compliance within three months of the date of issue of this Order.</p>

Table 136: New Directives for FY 2015-16

Directives	
Directive 1	Evacuation and Transmission
	The Petitioner has developed roadmap for generation capacity addition during 12 th and 13 th plan period. Some of these projects such as Dah and Hanu in Ladakh region are anticipated to be commissioned during next two years. However, the Petitioner has not provided any details of the evacuation and transmission plan for power generated from these new power projects. The Petitioner is directed to prepare and submit the detailed evacuation and transmission plans for its new and upcoming power projects so that the evacuation/ transmission system is in place well before the commissioning of the generating stations. The evacuation plan should be submitted to the Commission within three months of the date of notification of this Tariff Order.
Directive 2	Viability study of existing power projects
	The Petitioner is directed to conduct viability studies of all its existing Hydro Electric Projects. The study should determine the viability of existing projects by analysing the financial inputs & outputs, strengths, weaknesses, opportunities, threats, risks and suggest strategy to improve the profitability of the projects. The Petitioner should submit the study reports along with the next Tariff Petition.
Directive 3	Reporting of Renewable Purchase Obligations
	The Commission vide Notification No: JKSERC/40 dated 05.09.2014 designated J&K State Power Development Corporation as the 'State Agency' to undertake the functions as per the J&KSERC (Renewable Purchase Obligation, its compliance and REC framework implementation) Regulations, 2011. The Petitioner is directed to develop an appropriate protocol for collection of information from various sources such as Renewable Energy Generating Companies, Obligated Entities, SLDC etc. on a regular basis and compile and notify such information on RPO compliance by obligated entities in terms of the decision taken in meeting convened by the Commission on 24 th November 2014 with all the concerned agencies.

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ANNEXURES**Annexure 1: List of participants in State Advisory Committee Meeting****Table 137 : Participants at State Advisory Committee Meeting held in Jammu on 4th February 2015**

S.No.	Name of the Member/Officers	Department/Organization
Members of the SAC		
1	Sh. Basharat Ahmed Dhar	Chairman, JKSERC
2	Sh. G.M.Khan	Member (Finance), JKSERC
3	Sh. Jigmet Takpa	Director, LREDA, Leh, Ladakh
4	Sh. Annil Suri	President, Bari Brahmana Industries Association (BBIA)
5	Sh. Rakesh Gupta	President, Chamber of Commerce Industries Association (CCIA)
6	Sh. Vikram Gour	President, State Consumer Protection Council
7	Major Goverdhan Singh Jamwal (Retd.)	President, J&K Ex-Services League & J&K Paryavaran Sanstha
8	Sh. M.L. Raina	Dy. Transport Commissioner (Representing Transport Commissioner)
9	Sh. C.M.Sharma	Dy. Director, Agriculture (Representing Director Agriculture, Jammu)
Special Invitees		
10	Sh. D.S.Pawar	Ex. Hon'ble Member, JKSERC
11	Sh. H.S.Gupta	Ret. DCP/Ex. Technical Consultant JKSERC
Officers/ Representative of JKSERC		
12	Sh. R.K.Seli	Technical Consultant, JKSERC
13	Sh. Abdul Hamid	Secretary, JKSERC
14	Sh. V.K.Sarngal	Supdt. Engineer, JKSERC
15	Smt. Villy Kaul	Dy. Secretary Law, JKSERC
16	Sh. Ram Krishan Sharma	Accounts Officer, JKSERC
17	Sh. Abdul Hamid Baba	Pvt. Secretary to HCM, JKSERC
18	Sh. Paavan Bhargava	Senior Consultant, PWC
Representatives of Administrative Department of JKPDD		
19	Sh. K.K.Gupta	Director (Finance), PDD J&K, Civil Secretariat
20	Sh. Anil Gandotra	Director Planning, PDD J&K, Civil Secretariat
Officers/Representatives of JKPDD		
21	Sh. Asgar Ali Majaz	Development Commissioner Power, JKPDD
22	Sh. Ajay Gupta	Chief Engineer, System & Operation, PDD, Jammu
23	Smt. Shahnaz Goni	Chief Engineer, EM & RE, Jammu
24	Er. Khurshid Ahmad Badoo	Chief Engineer, Commercial & Survey Wing, Jammu
25	Er. Ravi Chanyal	Chief Engineer, Planning & Design, Jammu
26	Smt. Archana Gupta	Executive Engineer, IT Audit & Vigilance, Jammu
27	Sh. Nassarullah Jan	Executive Engineer, DCP Office, JKPDD
28	Sh. Azhar Wakil	AEE, DCP Office
29	Sh. Amit Hanjura	AEE

S.No.	Name of the Member/Officers	Department/Organization
30	Sh. Mohd. Ramzan	A.E, DCP Office
31	Sh. Pankaj Bansal	DGM, IRCON
32	Sh. R.K. Choudhary	GM, IRCON
33	Sh. Abid Shah	PM, PMA R-APDRP Part B (LBG)
34	Sh. Sameer Nayak	PMA, R-APDRP Part B (LBG)
35	Sh. Smiley Ohri	Oracle Consultant
36	Sh. S.S.Mehta	Consultant,
Officers/Representative of JKSPDC		
37	Sh. M.A. Kakroo	Managing Director, JKSPDC
38	Er. Subhash Chander Sharma	Chief Engineer, JKSPDC
39	Sh. Prem Nath	Chief Engineer, CID, Jammu
40	Sh. Upinder Jit Singh	Director Finance, JKSPDC
41	Sh. Mumtaz Ahmad	SGM (Elect.), JKSPDC
42	Sh. S.K.Zutshi	Supdt. Engineer, Generation Circle-II, Jammu.
43	Sh. I.A.Kakroo	G.M
44	Sh. Mohd. Hussain Teli	DGM, JKSPDC
45	Sh. Joginder Singh Jamwal	DGM (Elect.), JKSPDC
46	Sh. Raj Sharma	DGM (Elect.), JKSPDC
47	Sh. M.Naser Uzaman	AGM (P.F)

Annexure 2: List of stakeholders who provided written submissions**Table 138: Stakeholders who provided written submissions**

S.No.	Name	Department/Organisation
1	Sh. Anil Suri	Bari Brahmana Industrial Association.
2	Sh. Iqbal Fayaz Jan	PHD Chamber of Commerce, J&K Committee
3	Prof (Retd.) S Taffazul Hussain	Consumer
4.	M Showkat Chowdhary	Kashmir Hotel & Restaurant Association

Annexure 3: List of participants in Public Hearings**Table 139: Participants at Public Hearing held in Jammu on 7th February 2015**

S.No.	Name	Department/Organisation
JKSERC		
1	Sh. Basharat Ahmad Dhar	Chairman, JKSERC.
2	Sh. G.M.Khan	Member (Finance), JKSERC
3	Sh. R.K.Seli	Tech. Consultant, JKSERC
4	Sh. Abdul Hamid	Secretary, JKSERC
5	Sh. V.K.Sarngal	Supdt. Engineer, JKSERC
6	Smt. Villy Kaul	Dy. Secretary (Law), JKSERC
7	Sh. Ram Krishan Sharma	Accounts Officer, JKSERC
8	Sh. Babu Ram	Computer Operator, JKSERC
9	Sh. Aayush Mahajan	Consultant (PwC), JKSERC
JKPDD		
10	Sh. Asgar Ali Majez	DC(P), PDD, Jammu
11	Smt. Shahnaz Goni	Chief Engineer, M&RE, Jammu
12	Sh. Ajay Gupta	Chief Engineer, S&O, PDD, Jammu
13	Sh. Ravi Chanyal	Chief Engineer, P&D, Jammu
14	Sh. S.K.Zutshi	Supdt. Engineer, Generation Circle-III, Jammu
15	Sh. Nassarullah Jan	Executive Engineer, DCP Office, Jammu.
16	Sh. M.Ramzan	AE, DCP Office, PDD, Jammu.
17	Sh. Azhar Vakil	AEE, DCP Office.
18	Sh. Gaurav Lohani	Consultant, JKPDD
JKSPDC		
17	Sh. M.A.Kakroo	Managing Director, JKSPDC
18	Sh. Prem Nath	Chief Engineer, CI&D Wing, JKSPDC, Jammu
19	Sh. Mumtaz Ahmad	SGM (Elect.), JKSPDC, Jammu
20	Sh. I.A.Kakroo	GM, JKSPDC
21	Sh. Mohd. Hussain Teli	DGM, JKSPDC, Jammu
22	Sh. Shiv Raj Sharma	DGM (E), JKSPDC
23	Sh. Joginder Singh Jamwal	DGM (E), JKSPDC
24	Sh. Asif Maqbool	AGM (A&E), JKSPDC
25	Sh. M.Nasser U Zaman	AGM, (PF), JKSPDC
26	Sh. Afshah Wani	AGM (Finance) JKSPDC
27	Sh. Syed Bilal	Computer Operator, JKSPDC
OTHER PARTICIPANTS		
28	Sh. Chander Vadan	Company Secretary, 862-Subash Nagar, Jammu.
29	Sh. Sumesh Raina	Student, R/o Muthi Jammu
30	Sh. Ishfaq Bhat	Student
31	Sh. Abdul Gani	Businessman
32	Sh. Sunil Bakshi	Businessman, Jammu

Table 140: Participants at Public Hearing held in Srinagar on 10th February 2015

S.No.	Name	Department/Organization
JKSERC		
1	Sh. Basharat Ahmed Dhar	Chairman, JKSERC
2	Sh. G.M.Khan	Member (Finance), JKSERC
3	Sh. R.K.Seli	Technical Consultant, JKSERC
4	Sh. Abdul Hamid	Secretary, JKSERC
5	Sh. Ram Krishan Sharma	Accounts Officer, JKSERC
6	Sh. Abdul Hamid Baba	Pvt. Secretary to HCM, JKSERC
7	Sh. Aayush Mahajan	Consultant (PwC), JKSERC
JKSPDC		
8	Sh. M.A. Kakroo	Managing Director, JKSPDC
9	Sh. Hamid Mahmood Shah	Chief Engineer , CID Kashmir
10	Sh. Fida Mohammad Farooqi	Chief Engineer , NGHEP
11	Sh. Javed Yousuf Dar	Superintending Engineer, Circle-II,JK PDC
12	Sh. I.A.Kakroo	General Manager, JKSPDC
13	Sh. B.A.Wani	Executive Engineer, GT, JKPDC
14	Sh. B.A.Baqal	Executive Engineer, USHP-I & II, JKPDC
15	Sh. Ashfaq Hamdani	Technical Officer to Chief Engineer Generation, JKSPDC
16	Sh. M. Naseer-U-Zaman	AGM, JKSPDC
JKPDD		
17	Sh. Asgar Ali Majaz	Development Commissioner Power, JKPDD
18	Sh. Ajay Gupta	Chief Engineer, System & Operation, Jammu
19	Sh. B.A.Khan	Chief Engineer, EM&RE Wing, Kashmir
20	Sh. Gul Ayaz	Chief Engineer, System & Operation, Kashmir
21	Sh. Bashir A. Baba	Superintending Engineer, EM&RE Wing, Kashmir
22	Sh. Azhar Vakil	AEE, JKPDD
23	Sh. Gaurav Lohani	Consultant, JKPDD
OTHER PARTICIPANTS		
24	Sh. Shakeel Qalander	Civil Society Member, KCSDS
25	Sh. Mohammad Ashraf Mir	President FCIK
26	Sh. Faiz Bakshi	J. Secretary General, Kashmir Chamber of Commerce and Industry
27.	Sh. Syeed Fazal Illahi	President, I/E B.A.M.K; FCIK
28.	Sh. Gull Mohd. Bhat	Sarpanch, Sadiwara
29.	Sh. Gh. Nabi. Deka	Sarpanch, Dissu
30.	Sh. Ayaz Ahmad Bhat	Sarpanch, Khanyar
31	Sh. Ab. Kabir Rather	Sarpanch, Sirhama (A)
32	Haji-Bashir-Ahmad Khorl	Sarpanch, Matihundu
33	Mohd Rafeeq Padder	Sarpanch, Poolia (Verinang Qazigund)
34	Sh. Ifthakar Rasool Pathan	Sarpanch, Vailoo Kokernag

S.No.	Name	Department/Organization
35	Advocate Nazir Ahmad Pader	Sarpanch, Namatpura, Draway Larnoo Anantnag
36	Gh. Nabi wani	Sarpanch, Panzmulla, Anantnag
37	Sh. Mohd Qasim Mir	Sarpanch Chatter Gul
38	Mohd. Shaban Sheikh	Sarpanch, Iqbal Pura (Anantnag)

Appendix-A: Details of Depreciation approved by the Commission**Table 141: Working of depreciation for USHP-II HEP**

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	7.50	-	-	-	-
Civil Works	35	2.57%	287.34	258.61	81.23	177.37	7.39
Building	50	1.80%	4.94	4.45	0.98	3.47	0.09
Power Plant	35	2.57%	96.77	87.09	27.36	59.74	2.49
Switch Gears	25	3.60%	32.25	29.03	12.77	16.25	1.16
Communication	15	6.00%	6.20	5.58	4.09	1.49	0.37
Total			435.00	384.75	126.43	252.83	11.50

Table 142: Working of depreciation for Chenani-III HEP

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	1.45	-	-	-	-
Civil Works	35	2.57%	39.61	35.65	10.18	25.47	1.02
Building	50	1.80%	1.15	1.04	0.21	0.83	0.02
Power Plant	35	2.57%	9.27	8.34	2.38	5.96	0.24
Switch Gears	25	3.60%	3.09	2.78	1.11	1.67	0.11
Communication	15	6.00%	0.40	0.36	0.24	0.12	0.02
Total			54.97	48.17	14.12	34.05	1.41

Table 143: Working of depreciation for SEWA-III HEP

Class of Assets	Useful Life (In Years)	Rate of Dep	Admitted cost	Depreciable cost	Depreciated value	Remaining value	Balance spread over useful life
Land		0.00%	0.70	-	-	-	-
Civil Works	35	2.57%	43.59	39.23	11.20	28.03	1.12
Building	50	1.80%	2.29	2.06	0.41	1.65	0.04
Power Plant	35	2.57%	14.71	13.24	3.78	9.46	0.38
Switch Gears	25	3.60%	4.90	4.41	1.76	2.65	0.18
Communication	15	6.00%	0.66	0.59	0.40	0.20	0.04
Total			66.85	59.54	17.56	41.98	1.76

Table 144: Working of depreciation for Banderwah HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.15		0.15	-
Civil Works	35	2.57%	5.35		5.35	0.14
Building	50	1.80%	0.69		0.69	0.01
Power plant	35	2.57%	2.64		2.64	0.07
Switchgears	25	3.60%	0.88		0.88	0.03
Communication	15	6.00%	0.90		0.90	0.05
Total			10.61	-	10.61	0.30

Table 145: Working of depreciation for Pahalgam HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.58	-	0.58	-
Civil Works	35	2.57%	36.75	-	36.75	0.94
Building	50	1.80%	1.03	-	1.03	0.02
Power plant	35	2.57%	11.22	-	11.22	0.29
Switchgears	25	3.60%	3.74	-	3.74	0.13
Communication	15	6.00%	6.25	-	6.25	0.38
Total			59.57	-	59.57	1.76

Table 146: Working of depreciation for Haftal HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.05		0.05	-
Civil Works	35	2.57%	11.09		11.09	0.29
Building	50	1.80%	0.99		0.99	0.02
Power plant	35	2.57%	2.87		2.87	0.07
Switchgears	25	3.60%	0.95		0.95	0.03
Communication	15	6.00%	0.19		0.19	0.01
Total			16.14	-	16.14	0.42

Table 147: Working of depreciation for Marpachoo HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.12		0.12	-
Civil Works	35	2.57%	7.14		7.14	0.18
Building	50	1.80%	0.47		0.47	0.01
Power plant	35	2.57%	3.61		3.61	0.09
Switchgears	25	3.60%	1.20		1.20	0.04

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Communication	15	6.00%	0.30		0.30	0.02
Total			12.84	-	12.84	0.35

Table 148: Working of depreciation for Igo-Mercellong HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.08		0.08	-
Civil Works	35	2.57%	33.36		33.36	0.86
Building	50	1.80%	1.37		1.37	0.02
Power plant	35	2.57%	10.57		10.57	0.27
Switchgears	25	3.60%	3.52		3.52	0.13
Communication	15	6.00%	0.53		0.53	0.03
Total			49.43	-	49.43	1.31

Table 149: Working of depreciation for Stakna HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	2.82		2.82	-
Civil Works	35	2.57%	-		-	-
Building	50	1.80%	6.95		6.95	0.13
Power plant	35	2.57%	2.12		2.12	0.05
Switchgears	25	3.60%	0.71		0.71	0.03
Communication	15	6.00%	-		-	-
Total			12.60	-	12.60	0.21

Table 150: Working of depreciation for Sanjak HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Land		0.00%	0.05		0.05	-
Civil Works	35	2.57%	4.60		4.60	0.12
Building	50	1.80%	0.69		0.69	0.01
Power plant	35	2.57%	3.27		3.27	0.08
Switchgears	25	3.60%	1.09		1.09	0.04
Communication	15	6.00%	-		-	-
Total			9.70	-	9.70	0.25

Table 151: Working of depreciation for Karnah HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	7.76		7.76	0.20
Power plant & Transmission	35	2.57%	5.14		5.14	0.13
Switchyard	25	3.60%	0.64		0.64	0.02

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Total			13.54	-	13.54	0.35

Table 152: Working of depreciation for USHP-I HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	22.48		22.48	0.58
Power plant & Transmission	35	2.57%	22.96		22.96	-
Switchyard	25	3.60%	0.82		0.82	-
Total			46.26	-	46.26	0.58

Table 153: Working of depreciation for Lower Jhelum HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	206.20		206.20	5.30
Power plant & Transmission	35	2.57%	205.68		205.68	-
Switchyard	25	3.60%	9.36		9.36	-
Total			421.24	-	421.24	5.30

Table 154: Working of depreciation for Ganderbal HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	11.41		11.41	-
Power plant & Transmission	35	2.57%	4.26		4.26	-
Switchyard	25	3.60%	0.28		0.28	-
Total			15.95	-	15.95	-

Table 155: Working of depreciation for Iqbal Bridge HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	12.06		12.06	0.31
Power plant & Transmission	35	2.57%	11.36		11.36	0.29

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Transmission						
Switchyard	25	3.60%	1.22		1.22	0.04
Total			24.64	-	24.64	0.65

Table 156: Working of depreciation for Bazgo HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	1.13		1.13	
Power plant & Transmission	35	2.57%	0.91		0.91	0.023
Switchyard	25	3.60%	0.12		0.12	0.003
Total			2.16	-	2.16	0.03

Table 157: Working of depreciation for Sumoor HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	0.37		0.37	0.01
Power plant & Transmission	35	2.57%	0.29		0.29	0.01
Switchyard	25	3.60%	0.04		0.04	0.00
Total			0.70	-	0.70	0.02

Table 158: Working of depreciation for Hunder HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	1.51		1.51	0.04
Power plant & Transmission	35	2.57%	1.21		1.21	0.03
Switchyard	25	3.60%	0.14		0.14	0.01
Total			2.86	-	2.86	0.07

Table 159: Working of depreciation for Chennani-II HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	7.31		7.31	0.19
Power plant & Transmission	35	2.57%	4.42		4.42	0.11
Switchyard	25	3.60%	-		-	-
Total			11.73	-	11.73	0.30

Table 160: Working of depreciation for Chenani-I HEP

Class of Assets	Useful Life	Depreciation Rate	Admitted Cost	Additional Capitalization	Total Cost	Depreciation
Civil Works including Building	50	2.57%	64.03		64.03	1.65
Power plant & Transmission	35	2.57%	13.38		13.38	-
Switchyard	25	3.60%	1.08		1.08	-
Total			78.49	-	78.49	1.65

Table 161: Working of depreciation for Baglihar HEP

Head of Works	Depreciation Rate	Cost as on 31.03.2015	Additional Capitalization during FY 15-16	Closing GFA on 31.3.16	Depreciation for 2015-16
Infrastructure Works					
Preliminary including development investigation and planning					
Buildings	1.80%	40.70	0.00	40.70	0.73
Roads & Bridges	1.80%	149.03	0.00	149.03	2.68
Maintenance	2.57%	0.00	0.00	0.00	0.00
Tools & Plants	2.57%	0.00	0.00	0.00	0.00
Other misc.	2.57%	0.00	0.00	0.00	0.00
Vehicles	18.00%	1.14	0.00	1.14	0.21
Losses on stock		0.00	0.00	0.00	0.00
Receipt & Recoveries		0.00	0.00	0.00	0.00
Total (Infrastructure works)		190.87	0.00	190.87	
Major Civil Works			0.00	0.00	0.00

Head of Works	Depreciation Rate	Cost as on 31.03.2015	Additional Capitalization during FY 15-16	Closing GFA on 31.3.16	Depreciation for 2015-16
Dam, Intake & Desting Chambers / River Diversion	1.80%	2500.34	0.00	2500.34	45.01
HRT, TRT, Surge Shaft & Pressure Shafts / Outfall	2.57%	534.54	0.00	534.54	13.74
Power Plant Civil Works / Switchyard	1.80%	494.00	0.00	494.00	8.89
Other Civil Works , variation / Stage - II works / EoT Claims.	2.57%	504.19	0.00	504.19	12.96
Total (Major Civil Works)		4033.07	0.00	4033.07	
Hydro Mechanical equipments / works	2.57%	289.70	0.00	289.70	7.45
Batteries	18.00%	0.72	0.00	0.72	0.13
Cable including underground cable	1.80%	41.07	0.00	41.07	0.74
Lighting equipments	6.00%	12.65	0.00	12.65	0.76
Communication & P.A systems	6.00%	13.52	0.00	13.52	0.81
Transformers	3.60%	89.61	0.00	89.61	3.23
HV / MV/ LV Switchgear	3.60%	199.59	0.00	199.59	7.19
Air Conditioning	6.00%	29.37	0.00	29.37	1.76
D.G. Set	6.00%	3.07	0.00	3.07	0.18
Plants Machinery in Generating stations including plant foundation	2.57%	493.24	0.00	493.24	12.68
Electro-Mechanical works	5.95%	882.84	0.00	882.84	
Office equipment / furniture	6.00%	0.20	0.00	0.20	0.01
Total		5396.69		5396.69	119.15

Table 162: Working of depreciation for Baglihar Transmission system

Asset class	Approved Cost	Useful years	Dep rate	FY 15
Transmission line & material	134.21	35.00	2.57%	3.45
Transformers and substation equipment	10.58	25.00	3.60%	0.38
Total	144.79			3.83

APPENDIX – B: TARIFF COMPARISON STATEMENT**Table 163: Summary of Tariff comparison (Rs/kWh)**

Name of HEP	Tariff approved in previous years				Tariff for FY 2015-16	
	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	Proposed	Approved
USHP-II	1.40	0.99	0.83	0.85	0.88	0.88
Chenani-III	2.14	1.56	1.37	1.41	1.44	1.44
Sewa-III	2.89	2.16	1.94	1.99	2.04	2.04
Bhaderwah	1.70	1.61	1.46	1.20	0.91	0.88
Pahalagam	5.89	5.61	5.20	4.67	3.40	3.28
Haftal	5.09	4.90	4.54	4.32	4.16	4.08
Marpachoo	5.25	5.05	4.69	4.46	4.30	4.24
Igo-Mercellong	4.97	4.86	4.51	4.29	2.96	2.96
Karnah	1.01	2.91	2.90	2.99	3.11	3.09
USHP-I	0.32	0.70	0.60	0.63	0.74	0.66
Lower Jhelum	0.59	0.69	0.61	0.54	0.67	0.56
Ganderbal	0.11	0.50	0.42	0.45	0.54	0.48
Iqbal Bridge	0.99	1.83	1.77	1.82	1.89	1.87
Bazgo	1.69	3.26	3.18	3.28	3.40	3.43
Sumoor	1.32	3.36	3.32	3.43	3.58	3.78
Hunder	1.37	2.58	2.51	2.58	2.68	2.61
Chenani-II	0.82	1.02	0.94	0.96	1.00	0.98
Chenani-I	0.56	0.81	0.71	0.74	0.82	0.77
Baglihar HEP	3.51	3.42	2.92	2.83	3.235	2.75
Baglihar Transmission Line	0.09	0.09	0.08	0.08	0.097	0.08
Stakna	-	2.45	0.40	0.42	0.44	0.43
Sanjak	-	-	-	4.10	6.36	3.79
Average tariff	-	-	-	2.08	2.32	2.02

APPENDIX – C: COMPUTATION OF WATER USAGE CHARGES (ON DESIGN ENERGY)

Project	Design Energy in Mus	Head(m)	Volume / Unit of Energy = 400/H (in m3)	Total volume of water as per design energy (in Million Cubic Mtr)	Water Usage charges / Unit (in Rs)*		Yearly water Usage charges (in Rs Crores)	
					As per Order No. WWRA/01 of 2011	As per Order No. 89/ JKSWRRA of 2014	As per old rates Order No. WWRA/01 of 2011	As per revised rates Order No. 89/ JKSWRRA of 2014
Lower Jhelum	609.43	61.71	6.48	3950.28	1.62	0.15	98.73	58.54
Iqbal	21.23	15.00	26.67	566.13	6.67	0.05	14.15	2.81
USHP-I	106.62	150.90	2.65	282.62	0.66	0.25	7.07	7.00
Ganderbal	90.15	137.00	2.92	263.21	0.73	0.25	6.58	6.51
Hunder	1.77	30.10	13.29	23.52	3.32	0.12	0.59	0.12
Sumoor	0.45	52.95	7.56	3.40	1.89	0.12	0.09	0.04
Chenani-II	12.00	30.00	13.33	160.00	3.33	0.05	4.00	0.79
Karnah	11.36	36.00	11.11	126.22	2.78	0.12	3.16	1.50
Bazgo	1.09	66.00	6.06	6.61	1.52	0.15	0.17	0.10
Pahalgam	17.12	24.60	16.26	278.37	4.07	0.05	6.96	1.39
IGO-Mercellong	15.88	27.00	14.81	235.26	3.70	0.05	5.88	1.16
Sewa-III	33.06	38.00	10.53	348.00	2.63	0.12	8.70	4.13
Marpachoo	3.79	40.00	10.00	37.90	2.50	0.12	0.95	0.45
Haftal	4.88	118.36	3.38	16.49	0.85	0.25	0.41	0.41
Baderwah	8.32	230.00	1.74	14.47	0.44	0.25	0.36	0.41
USHP-II	447.37	231.66	1.73	772.46	0.43	0.25	19.33	19.08
Chenani-I	110.02	365.00	1.10	120.57	0.27	0.25	3.01	2.98
Chenani - III	36.71	74.70	5.35	196.57	1.34	0.15	4.92	2.92

Project	Design Energy in Mus	Head(m)	Volume / Unit of Energy = 400/H (in m3)	Total volume of water as per design energy (in Million Cubic Mtr)	Water Usage charges / Unit (in Rs)*		Yearly water Usage charges (in Rs Crores)	
					As per Order No. WWRA/01 of 2011	As per Order No. 89/ JKSWRRA of 2014	As per old rates Order No. WWRA/01 of 2011	As per revised rates Order No. 89/ JKSWRRA of 2014
Stakna	19.52	20.00	20.00	390.40	5.00	0.05	9.76	1.93
Sanjak	4.42	49.60	8.06	35.65	2.02	0.12	0.00	0.43
Total	1550.77			7792.50			194.81	112.70
Baglihar	2536.07	123.00	3.25	0.00	0.81	0.25	206.18	206.18
Grand Total	4086.84			7792.49981			400.99	318.88

***APPLICABLE RATE OF WATER USAGE CHARGES**

1	As per Order No. WWRA/01/2011 dated 01.02.2011	Uniform rate of Rs 0.25/ cum
2	As per Order No. 89 /JKSWRRA of 2014 dated 22.12.2014 (applicable w.e.f. 01.01.2015)	
	For hydroelectric plants with head upto 30m	Rs 0.05/cum
	For hydroelectric plants with head from 31m to 60 m	Rs 0.12/cum
	For hydroelectric plants with head from 61m to 90m	Rs 0.15/cum
	For hydroelectric plants with head above 90m	Rs 0.25/cum