CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 230/GT/2014

Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member

Date of Hearing: 16.07.2015
Date of Order: 24.02.2016

In the matter of

Revision of annual fixed charges after truing-up exercise for the period 2009-14 and Determination of annual fixed charges for the period 2014-19 respect of Dhauliganga Hydroelectric Power Station (280 MW)

And

In the matter of

NHPC Limited
NHPC Office Complex,
Sector-33, Faridabad,
Haryana-121003 **…Petitioner**

Vs

1. Punjab State Power Corporation Limited
The Mall, Secretariat Complex,
Patiala – 147001

2. Haryana Power Purchase Centre,
Shakti Bhawan, Sector, VI
Panchkula – 134109

3. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110019

4. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226001

5. BSES Yamuna Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110 019

6. Rajasthan Rajya Vidyut Prasaran Nigam Ltd
Vidyut Bhawan, Janpath,
Jyoti Nagar, Jaipur-302005

7. Jaipur Vidyut Vitaran Nigam Ltd.,
Vidyut Bhawan, Janpath, Jaipur – 302005

8. Jodhpur Vidyut Vitaran Nigam Ltd.
New Power House, Industrial Area,
Jodhpur – 342003

9. Ajmer Vidyut Vitaran Nigam Ltd.
Old Power House, Hatthi Bhatta,
Jaipur Road, Ajmer – 305001

10. Tata Power Delhi Distribution Ltd
33 kV Sub-station, Kingsway Camp,
Delhi –110009

11. Uttaranchal Power Corporation Ltd,
Urja Bhawan, Kanwali Road,
Dehradun-248001

12. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla-171004

13. Engineering Department, UT Secretariat,
UT Secretariat, Sector 9D
Chandigarh-160009

14. Power Development Department,
New secretariat,
Jammu-180001 (J&K) **…Respondents**

Parties present:

For Petitioner	Shri A. K. Pandey, NHPC Shri Piyush Kumar, NHPC Shri Karpataru Nayak, NHPC Shri Naresh Bansal, NHPC
For Respondents:	Shri R.B. Sharma, Advocate, BRPL

<u>ORDER</u>

This petition has been filed by the petitioner, NHPC for revision of the annual fixed charges for the period 2009-14 in terms of Regulation 6(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (“the 2009 Tariff Regulations”) and for determination of tariff for the period 2014-19 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (“the 2014 Tariff Regulations”) in respect of Dhauliganga Hydroelectric Power Station (4 x 70 MW) (‘the generating station’).

2. The generating station with capacity of 280 MW comprises of 4 units each. Unit–III of the generating station was commissioned on 1.10.2005 and the remaining three units were commissioned on 1.11.2005.

3. The annual fixed charges of the generating station were approved by Commission's order dated 20.10.2008 in Petition No.107/2006 based on the capital cost of ₹170397.43 lakh as on 31.3.2006 (including additional capital expenditure for the period from 1.11.2005 to 31.3.2006). Thereafter, by order dated 11.2.2010 in Petition No. 239/2008, the annual fixed charges of the generating station were revised after considering the impact of additional capital expenditure for the years 2006-07 to 2008-09. Subsequently, by order dated 20.5.2010, the annual fixed charges for the year 2007-08 and 2008-09 were revised after taking into account the liabilities discharged for the years 2007-08 and 2008-09, based on the capital cost of ₹175341.02 lakh as on 31.3.2009, as under:

(₹ in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	78.66	1581.64	3945.84	4000.43	4017.62
Interest on Loan	83.41	1667.57	4062.22	3982.43	3858.04
Return on Equity	129.73	2590.67	6486.96	6586.97	6618.46
Advance Against Depreciation	0.00	0.00	0.00	0.00	89.66
Interest on Working Capital	9.99	198.27	492.62	507.04	521.13
O & M Expenses	51.48	1012.36	2544.98	2646.78	2752.65
Total	**353.27**	**7050.51**	**17532.62**	**17723.65**	**17857.56**

4. Though the annual fixed charges of the generating station for the period 2004-09 were revised by the Commission through various tariff orders, as stated above, it is observed that the issue of (i) Consideration of depreciation as deemed normative repayment and (ii) Correct computation of cost of maintenance spares in working capital was not considered in terms of the observations of the Tribunal by judgment dated 23.12.2009 in Appeal No. 60/2008. The relevant portion of the said judgment is extracted as under:

> *"36. We are unable to agree with the view of the Commission that when depreciation exceeds the actual repayment the difference between depreciation and repayment amount be taken as normative repayment of loan as regulations only state that whenever the repayment amount exceeds the depreciation recovered, excess amount is to be allowed as Advance against Depreciation. In our earlier judgment cited above this Tribunal has ruled that depreciation is an expense and not an item allowed for repayment of loan. In our view the Commission, in the absence of any Regulation to this effect, has erred in coming to the conclusion that when depreciation recovered in an year is more than the amount of repayment during that year, the entire amount of depreciation is to be considered as repayment of loan for tariff computation."*

5. It is observed that against the judgment of the Tribunal dated 23.12.2009 in Appeal Nos. 138/2006, 274/2006 and 60/2008, this Commission has filed Civil Appeals before the Hon'ble Supreme Court on the issue of 'Consideration of depreciation as deemed normative repayment', and the same is pending. Pending final decision of the Hon'ble Court in these appeals, the annual fixed charges for the period 2004-09 in respect of this generating station is revised considering the same in terms of the observations of the Tribunal.

6. It is also observed that the computation of maintenance spares in working capital was inadvertently not considered in terms of the observations of the Tribunal in the said tariff orders, perhaps due to oversight. The relevant portion of the judgment of the Tribunal dated 23.12.2009 held as under:

> *11. The issue lies in a narrow compass. The station has been commissioned on February 15, 2000. An escalation @ 6% per annum is provided for as per Clause (v) (a)(ii) of Regulation 38 of the 2004 Regulations. Regulations provide for escalation @ 6% for the full year. As the unit has been commissioned during the year 1999-2000 on February 15, 2000, effect of pro rata escalation @ 6% can be given by considering pro rata escalation for the period February 16, 2000 to March 31, 2000 and then allowing 6% escalation in the following full year i.e. from April 01, 2000 to March 31, 2001. In this regard Sub Section 4 of Section 62 of The Electricity Act, 2003 requires that "No tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year except in respect of any changes expressly permitted in the terms of any fuel surcharge formula as may be specified". In view of this requirement of the Act it is not prudent to give effect to the annual escalation only after period of one year is completed as it would result in revision of the tariff in the middle of the tariff year. We, therefore, consider that pro rata escalation at the stipulated rate of 6% may be allowed for the period February 16, 2000 to March 31, 2000. With effect from April 01, 2000 a further escalation @ 6% per annum is payable. We order accordingly."*

7. In line with the observations of the Tribunal, the error is rectified by considering the escalation @6% per annum for the period 2004-09. Consequent upon the above, the other components of tariff will also undergo revision and accordingly the annual fixed charges for the period 2004-09 in respect of this generating station have been revised as stated in the subsequent paragraphs.

8. Consequent upon this, the annual fixed charges for the period 2004-09 in respect of this generating station stand revised as under:

(₹in lakh)

	2004-05	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Depreciation	78.66	1581.64	3945.84	4000.43	4017.62
Interest on Loan	83.41	1675.17	4148.02	4139.23	4033.43
Return on Equity	129.73	2590.67	6486.96	6586.97	6618.46
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	9.99	198.40	500.10	516.11	529.34
O & M Expenses	51.48	1012.36	2544.98	2646.78	2752.65
Total	**353.27**	**7058.24**	**17625.90**	**17889.51**	**17951.51**

Revision of Annual Fixed Charges for 2009-14

9. Petition No.109/2010 was filed by the petitioner for determination of tariff of the generating station for the period 2009-14 and the Commission by its order dated 14.3.2011 had determined the annual fixed charges for the generating station for the period. Thereafter, by order dated 26.2.2014 in Petition No.229/GT/2013, the annual fixed charges of the generating station for 2009-14 was revised after truing-up exercise based on the actual additional capital expenditure incurred during the period 2009-12 and revised projections for additional capital expenditure for the period 2012-14. The annual fixed charges allowed for the period 2009-14 by the said order dated 26.2.2014 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	11134.93	11057.85	10933.24	8447.49	8850.00
Interest on Loan	3564.43	3271.64	2954.45	2583.15	2302.81
Depreciation	8952.04	8986.80	9004.24	8977.22	8977.36
Interest on Working Capital	760.63	768.96	776.30	733.31	753.95
O & M Expenses	5351.45	5657.55	5981.16	6323.28	6684.98
Total	**29763.47**	**29742.79**	**29649.38**	**27064.43**	**27569.10**

10. Clause (1) of Regulation 6 of the 2009 Tariff Regulations provides as under:

"6. Truing up of Capital Expenditure and Tariff

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013-14 for revision of tariff."

(2) The generating company or the transmission licensee, as the case may be, shall make an application, as per Appendix I to these regulations, for carrying out truing up exercise in respect of the generating station a unit or block thereof or the transmission system or the transmission lines or sub-stations thereof by 31.10.2014;

(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors;

11. The petitioner in this petition has claimed the revision of annual fixed charges for the period 2009-14 based on the actual additional capital expenditure incurred during the years 2012-13 and 2013-14 after truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations and for determination of tariff of the generating station for 2014-19. Accordingly, the annual fixed charges claimed by the petitioner for the period 2012-14 in this petition are as under:

(₹in lakh)

	2012-13	2013-14
Return on Equity	8993.21	8954.89
Interest on Loan	2689.79	2319.97
Depreciation	9355.32	9881.73
Interest on Working Capital	754.78	775.34
O & M Expenses	6323.28	6684.98
Total	**28116.38**	**28616.90**

12. Accordingly, the petition was heard on 16.7.2015 and the Commission after directing the parties to complete the pleadings reserved orders in the petition. The respondents, UPPCL and BRPL have filed replies to the petition and the petitioner has filed its rejoinder to the same. Based on the submissions of the parties and the documents available on record, we proceed to revise the tariff for the period 2009-14 based on truing-up exercise and also determine the tariff for the period 2014-19 in respect of the generating station as stated in the subsequent paragraphs:

Capital cost

13. The last proviso to Regulation 7 of the 2009 Tariff Regulations, as amended on 21.6.2011 provides as under:

> *"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff."*

14. The Commission in order dated 26.2.2014 in Petition No.229GT/2013 had considered the closing capital cost of ₹176196.73 lakh as on 31.3.2012. Accordingly, this capital cost of ₹176196.73 lakh has been considered as the opening capital cost as on 1.4.2012 for revision of tariff for 2012-14.

Actual Additional Capital Expenditure for 2012-14

15. Regulation 9 (2) of the 2009 Tariff Regulations, as amended on 21.6.2011 provides as under:

> *"9. (2) The capital expenditure incurred or projected to be incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*
>
> *(ii) Change in law;*
>
> *(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(iv) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and*

(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009.

16. The projected additional capital expenditure allowed for the period 2012-14 in order dated 26.2.2014 in Petition No.229/GT/2013 *vis-a-vis* the actual additional capital expenditure claimed in this petition are as under:

(₹ in lakh)

	2012-13	**2013-14**
Projected additional capital expenditure allowed in order dated 26.2.2014	4.77	1.00
Actual additional capital expenditure claimed	(-) 287.46	(-) 913.29

17. The re-conciliation of actual additional capital expenditure claimed in this petition with respect to additional capital expenditure as per books of accounts duly certified by auditor for the period 2012-13 and 2013-14 is as under:

(₹ in lakh)

Sl. No.		**2012-13**	**2013-14**
1	**Addition**		
a	**Additions being claimed for tariff purpose**		
i	Capitalization against works projected and allowed for additional capitalization during the years 2009-10 to 2013-14	0.00	0.00
ii	Expenditure not projected/not allowed but capitalized due to actual site requirements (being claimed for additional capitalization)	55.25	27.08
iii	Capitalization against allowed works due to difference and actual capitalization	16.51	17.50
	Sub-total (1 a)	**71.76**	**44.58**
b	**Other additions**		
i	IUT Transfer considered	0.00	95.10
	Sub-total (1b)	**0.00**	**95.10**
c	**Total 1c= 1a+1b**	**71.76**	**139.68**
d	**Deletion**		
i	Deletion of Assets on account of Sale of assets/Assets written off/ new assets purchased during the year	0.00	(-) 5.37
ii	Deletion of Assets on account of loss of flood during 2013-14 and against which new assets will be claimed at the time of purchase/capitalization	0.00	(-) 1122.17
iii	IUT Transfer out considered for additional capitalization.	(-) 356.10	0.00
	Total 1d	(-) **356.10**	(-) **1127.54**
e	Net addition to be claimed **1e=1c+1d**	(-) 284.34	(-) 987.86
2	**Additional capitalization not to be claimed**		

a	**Addition**		
i	Expenditure not projected/not allowed but capitalized due to actual site requirements (not being claimed for additional capitalization / under exclusion category)	4.47	60.78
ii	Transfer to obsolete	0.00	0.00
iii	Inter head adjustments/ contra entry	0.00	892.27
iv	Capital Spares purchased		122.00
	Total 2a	**4.47**	**953.05**
b	**Other additions**		
i	IUT Transfer is not considered	4.93	3.16
c	**Total additions not claimed 2c=2a+2b**	9.40	1078.21
d	**Deletion**		
i	De-capitalization due to ERV	(-)12330.98	0.00
Ii	Deletion under exclusion category (deletion for minor assets/tools/tackles etc. which are not considered by CERC for add-cap)	(-)2.16	(-) 68.05
iii	Inter head adjustments	0.00	(-) 892.27
iv	IUT under exclusion category	(-)14.39	(-)0.81
	Total 2d	(-) **12347.53**	(-) **961.13**
e	**Net addition under exclusion category 2e=2c+2d**	(-) **12338.13**	**117.08**
f	**Net Additional Capitalization (including IUT) as per Books of accounts 2f=1e+2e**	(-) **12622.47**	(-) **870.78**
3	**Net Additional Capitalization claimed for tariff**		
i	Net Additional Capitalization	(-) 284.34	(-) 987.86
Less	Un-discharged liability in the additional capital expenditure	0.00	0.00
Add:	Liability existed as on 31.3.2009 and discharged during the years	0.00	74.57
Add:	Liability discharged during the year for the add cap 2009-2012	0.11	0.00
Less	Assumed deletions	(-) 3.23	0.00
	Net additional capitalization claimed	**(-) 287.46**	**(-) 913.29**

18. Based on the above reconciliation, the year-wise admissibility of the additional capital expenditure under various heads is discussed in the subsequent paragraphs.

<u>2012-13</u>

19. No additional capital expenditure has been undertaken but the petitioner in the year 2012-13 as against the works approved by Commission.

Works allowed in previous years but capitalized in 2012-13

20. The details of works/assets, the additional capital expenditure allowed for these works / actual additional capital expenditure against these works along with reasons for admissibility of the actual additional capital expenditure in terms of 2009 Tariff Regulations are as under:

(₹in lakh)

Sl. No	Assets/works	Amount allowed on projected basis	Actual expenditure incurred/ claimed	Justification for admissibility of expenditure
1	X-ray Machine	10.00	6.76	**Allowed** as the asset was already approved by Commission vide Order

				dated 14.3.2011 in Petition No. 109/2010 under Regulation 9(2) (iv) of the 2009 Tariff Regulations. An amount of ₹3.23 lakh is considered as deletion value of the old asset under "Assumed deletions".
2	OFC & ERP related equipment viz. computers, servers, printers etc.	10.00	9.75	**Allowed** as the asset was already approved by Commission vide Order dated 14.3.2011 in Petition No. 109/2010 under Regulation 9(2) (iv) of the 2009 Tariff Regulations. An amount of ₹1.90 lakh was deducted in 2011-12 in Petition No. 229/GT/2013 as gross value of old asset. ₹14.47 lakh is provided as acquisition value of old assets removed from service. As such an amount of (-) ₹2.82 (9.75-14.47+1.90) lakh is allowed for tariff purpose.
	Total claimed		**16.51**	
	Total allowed			**3.94**

2013-14

21. No additional capital expenditure against the works approved by Commission has been undertaken by the petitioner during the year 2013-14.

Works allowed in previous years but capitalized in 2013-14

22. The details of works, the additional capital expenditure allowed for these works, the actual additional capital expenditure incurred against these works along with justification for admissibility of the actual additional capital expenditure in terms of 2009 Tariff Regulations is as under:

(₹in lakh)

Sl. No	Assets/works	Amount allowed on projected basis	Actual expenditure incurred/ claimed	Justification for admissibility of expenditure
1	Medical Equipments	10.00	2.45	The assets claimed under this head are different from the assets allowed earlier in Petition No. 109/2010 vide Order dated 14.3.2011. However, the capitalization of the assets is **allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the assets are for the benefit of the employees working in the remote location and accordingly contribute to the successful and efficient operation of the generating station.

2	Two additional rooms in VIP Guest House (including furnishings)	30.00	15.05	**Allowed** as the asset was already approved by Commission vide Order dated 14.3.2011 in Petition No. 109/2010 under Regulation 9(2)(iv) of the 2009 Tariff Regulations.
	Total claimed		**17.50**	
	Total allowed			**17.50**

Capital expenditure not projected/allowed, but incurred and claimed

23. The details of the actual additional capital expenditure incurred against new works/ assets along with admissibility of the actual additional capital expenditure in terms of 2009 Tariff Regulations is as under:

2012-13

(₹in lakh)

Sl. No	Assets/works	Actual expenditure incurred / claimed	Justification submitted by petitioner	Admissibility of expenditure
1	Providing & laying pipe line from Adit-III to fire fighting tank	3.23	Earlier the water was pumped from the draft tube and it is filled at the Fire fighting tank located above the Main Access Tunnel of the Power House. Even when the units are in stop condition the water flows through the shaft seal. Due to this, the consumption of water is more and the pumps are almost running continuously. In case of breakdown of the pumps there is no other source to provide cooling water to the shaft seal and eventually the unit will have to be stopped. This may lead to revenue loss to the corporation. At surge shaft there is seepage water which is sufficient and can be utilized for filling the fire fighting tank/shaft seal water tank. Due to this the running hours of the pump will be reduced and there will be saving in the consumption of electricity. More over the shaft seal cooling water system will have a backup system. Hence, in order to ensure the system to function smoothly and as desired by Power House E&M complex, the work for "Providing & Laying pipe line from ADIT-III to fire fighting tank" has been carried out.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the asset / work is considered necessary for successful and efficient operation of the generating station.

2	Construction of store room at downstream of dam	1.22	For the storage of miscellaneous items necessary for O&M of dam, a new store was constructed at Dam site. Earlier no separate store was available at dam site and urgency for the same was being felt from the long back.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the asset / work is considered necessary for successful and efficient operation of the generating station.
3	Temporary additional transit accommodation near substation of power house	8.78	In the rainy season/during rains the road between Tapovan & Elagad often gets blocked thereby compelling the Shift personnel for Power House operation, QC staff and other maintenance staff, besides sometimes for staff returning from Dam/QC, to shelter in the transit camp. Further during annual maintenance also the regular as well as contract staff stays in the Transit camp due to late working hours/round the clock maintenance. Under these circumstances the available accommodation, of 4 rooms and Dormitory, becomes insufficient. In view of the above it has been decided to construct additional Transit accommodation at Power House.	
4	Shifting of drainage and dewatering panels	7.58	The Drainage & Dewatering Panels were installed at MIV floor (EL1024.70 m), which is lowest floor in Power House. In the event of any flooding in power house these panels shall submerge early and consequently it leads to tripping of all drainage & dewatering pumps. To avoid such circumstances the Drainage & Dewatering panels were shifted to higher elevation at Generator floor (EL1034.0 m). More over CEA and Ministry Of Power recommends that location of control panels for drainage & dewatering pumps should be at a floor higher than a turbine floor. Considering the safety of power house the above was carried out.	
5	SF6 multi analyser without gas return system	10.14	The SF6 Multi gas analyzer is required for testing the acidity of SF6 gas in event of fault or before filling of SF6 gas. Frequent faults are occurring at the GIS. Hence in order to analyse the SF6 gas during faults this instrument is required in Power Station for maintenance work of system.	**Not Allowed** as the asset is in the nature of "Tools & Tackles".
6	Solar street light 10 nos.	3.23	The power supply from state grid to the colonies of power station is very erratic and unreliable. Power cut from the state grid is very common and the colonies which are surrounded by hills, forests and river etc. become completely dark in such cases.	**Not Allowed** as the asset was not allowed in Petition No. 109/2010 vide order dated 14.3.2011.

			Therefore, to provide at least street lighting in the colonies, the solar street lights were purchased and installed.	
7	Three phase welding rectifier set, current: upto 350amp	0.71	Welding machine is very much essential for repairing of Underwater parts and for day to day maintenance. There was no portable welding machine available in the Power Station. The approach to many of the areas in the power house and equipments is difficult. Hence shifting the welding machine to those areas and repairing was felt difficult. Considering the above factors the machine of portable type was purchased, which can be shifted manually to any location and it was observed that it is very much fruitful in doing repairs.	**Not Allowed** as the asset is in the nature of "Tools & Tackles".
8	Water supply line from natural source to Nigalpani colony	17.96	Water supply scheme from the time of inception of Nigalpani Colony till 2012 is as under: (1) The main source of water was ground water. (2) There were 2 boreholes in the colony premises from where ground water was being pumped into underground tanks with the help of 2 nos. submergible pumps of capacity 3 HP each. (3) From one of the underground tanks, the stored water was further pumped into main underground water tank with the help of 2 nos. 20 HP pumps. (4) Finally from the main underground tank, water was pumped into water tanks of each quarters for consumption with the help of 2 nos. 7.5 HP pumps. The necessity for undertaking alternative source for supply of water is as under: (1) Quality of water from one of the boreholes had deteriorated and its consumption was not advisable. (2) Further, to ensure continuous supply, the system was dependent on electricity, availability of pumps. Such dependence often lead to disruption in supply. (3) Financial consideration w.r.t. cost of electricity towards pumping arrangement also justified for undertaking new scheme of water supply, which is natural source of water and is supplied by means of gravity.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the asset/work is for the benefit of the employees working in the remote location and accordingly contribute to the successful and efficient operation of the generating station.
9	Kenwood VHF hand held (7 Nos.) and GP antenna.	0.77	Materials were purchased for enhancing the wireless communication system within Power House, Elagad Dam site, Chirkila and CISF Office, Dobat.	**Not Allowed** as the assets are of minor nature

10	VoIP gateway with 04 port FXO	0.73	Materials were purchased for enhancing the telephone system at Power House, Elagad	
11	Multimedia Projector	0.90	Material was purchased for conference hall at Administrative Office for presentation purpose.	
	Total claimed	**55.25**		
	Total allowed			**38.77**

2013-14

(₹in lakh)

Sl. No.	Assets/works	Actual expenditure incurred/ claimed	Justification submitted by the petitioner	Remarks for admissibility
1	Digital weighing machine range 10mg to 3.0 kg (2 nos.).	0.81	For the measurement of silt ,guide lines /methodology was given by corporate office. Digital weighting machine with least count 0.01gm is mandatory required to weight the exact quantity of silt in water. Hence this is equipment was purchased from TRT.	**Not Allowed** as the assets are minor in nature
2	Digital weight machine (capacity 2.0 kg) SI standard	0.52	For the measurement of silt, guide lines /methodology was given by corporate office. Digital weighting machine with least count 0.01gm is mandatory required to weight the exact quantity of silt in water. Hence this is equipment was purchased to measure silt from intake at Dam.	
3	Construction of new quarters guard for CISFat Dobat	9.27	New quarter guard building was constructed at Dobat as per requirement of CISF. The existing establishment provided for CISF personnel was not sufficient to accommodate then properly and fulfill their requirement.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the asset/work is for the benefit of the employees working in the remote location and accordingly contribute to the successful and efficient operation of the generating station.

4	Kenwood VHF hand held sets (14 nos.), VHF repeater Kenwood synthesized back to back transceiver with all standard accessories (eight nos.) and Kenwood VHF GP antenna (two nos.)	3.86	Due to recent flood it was felt necessary to improve the communication system	**Not Allowed** as the assets are of minor nature.
5	Submersible Pump 50HP/37KW power (35KW-38KW) with starter.	12.62	Purchased against replacement.	**Allowed** on replacement under Regulation 9(2)(iv) of the 2009 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station. The gross value of the old asset is considered as ₹5.37 lakh and has been de-capitalized under regular "Deletions".
	Total claimed	**27.08**		
	Total allowed			**21.89**

24. The petitioner has claimed additional capital expenditure on account of Inter-unit transfer during 2013-14. The justification of the said claim along with its admissibility is as under:

(₹in lakh)

Sl. No.	Assets/works	Actual expenditure incurred/ claimed	Justification submitted by the petitioner & the station from which the assets are transferred.	Justification for admissibility
1	Video Conferencing	2.08	Equipments required for meeting/ discussion with Corporate Office / Top Management, from Chamera-III HEP	**Not allowed** as the asset is of a minor nature.
2	Submersible sludge pump	16.46	The pump was brought from Parbati III Project for removing the silt inside the Power House. Since, there is no slurry pump inside the Power House, the same is required for desilting the drainage sumps during monsoon period.	**Allowed** as the asset is considered necessary for efficient operation of the generating station. However, the said will be deleted from the capital base of Parbati-III HEP station of the petitioner at the time of determination of

				its tariff.
	Manually Operating Winch Machine. (5 Ton).	0.30	Equipment necessary for movement of goods at Power House, from Tanakpur HEP	**Not allowed** as the asset is in the nature of "Tools & Tackles".
4	Dass hydro cranes RO-81,8-9 TON	0.46	Equipment required for restoration purpose, from Tanakpur HEP.	**Allowed** as the assets have been deleted from the capital base of Tanakpur HEP generating station of the petitioner
5	TATA tipper	0.47		
6	TOYO submersible agitator sand pump	56.12	Equipment required for restoration purpose, from Bairasiul HEP.	**Not allowed** since the assets have been allowed vide order dated 17.6.2015 in Petition No. 235/GT/2014 as additional capital expenditure for Bairasiul HEP of the petitioner in 2012-13
7	Control panel for TOYO submersible agitator sand pump	14.53		
8	Relay test kit	4.68	Equipment required for restoration purpose, from Chamera-I HEP.	**Not allowed** since de-capitalization of the asset was claimed by the petitioner under exclusion in Chamera-I HEP and was considered under exclusion vide order dated 4.9.2015 in Petition No.237/GT/2015.
Total amount claimed		**95.10**		
Total amount allowed				**17.39**

Deletions

25. The following year-wise expenditure has been de-capitalized by the petitioner on account of sale of assets/ assets written off/ new assets purchased during the year, loss of flood during the year 2013-14, Inter Unit Transfer and deemed deletion. The detail of deletions claimed is as under:

(*₹ in lakh*)

Sl. No.		**2012-13**	**2013-14**
i	Deletion of assets on account of Sale of assets/Assets written off/ new assets purchased on replacement during the year	0.00	(-) 5.37
ii	Deletion of assets on account of loss of flood during 2013-14 and against which new assets will be claimed at the time or purchase capitalization	0.00	(-)1122.17
iii	IUT Transfer out considered for additional capitalization	(-) 356.10	0.00
	Total (b)	**(-) 356.10**	**(-)1127.54**

26. As the corresponding assets do not render any useful service in the operation of the generating station, the de-capitalization of the above said expenditure as affected in the books of accounts has

been allowed for the purpose of tariff. Accordingly, the above said amounts have been deleted for the purpose of tariff.

Exclusions

Exclusions in additions (incurred, capitalized in books but not to be claimed for purpose of tariff)

27. The following year-wise expenditure has been incurred by the petitioner on replacement of minor assets, purchase of capital spares, purchase of miscellaneous assets, additions on inter-unit transfers, minor assets, for restoration of power station etc.

(₹ in lakh)

	2012-13	2013-14
Exclusions in additions (incurred, capitalized in books but not to be claimed for tariff purpose)	9.40	1078.21

28. The expenditure incurred towards procurement/replacement of minor assets and procurement of capital spares after the cut-off date is not permissible for the purpose of tariff in terms of the 2009 Tariff Regulations. Accordingly, the petitioner has considered these additions under exclusion category; i.e positive entries are to be ignored for the purpose of tariff. As such**,** the exclusions of the positive entries under the head are in order and are allowed.

Exclusions in deletions (de-capitalized in books but not to be considered for tariff purpose)

29. The petitioner has de-capitalized amounts in books of accounts pertaining to capital spares, minor assets such as computers, office equipment, furniture, ladders, pumps, fixed assets of minor value less than ₹5000 etc., as these are not in use on account of their becoming unserviceable/obsolete and also deletion on account of inter-unit transfer of minor assets, as under :

(₹in lakh)

Sl. No.		2012-13	2013-14
i	De-capitalization due to ERV	(-)12330.98	0.00
ii	Deletion under exclusion category (deletion for minor assets/tools/tackles etc. which are not considered by Commission for additional capitalization)	(-) 2.16	(-) 68.05
iii	Inter head adjustments	0.00	(-)892.27
iv	Inter unit transfer of minor asset	(-)14.39	(-)0.81
		(-)12347.53	**(-)961.13**

30. The petitioner has prayed that de-capitalization due to ERV for an amount of (–)₹12330.98 lakh may be ignored/ excluded for the purpose of tariff. In view of the fact that as per 2009, Tariff Regulations ERV gain or loss is to be settled by the petitioner with the beneficiaries directly, exclusion of ERV is allowed.

31. The petitioner has prayed that the negative entries may be ignored/ excluded for the purpose of tariff as the corresponding positive entries for purchase of such assets are not being allowed for the purpose of tariff in terms of the provisions of the 2009 Tariff Regulations. In support of this, the petitioner has referred to the observations of the Commission in order dated 7.9.2010 in Petition No.190/2009 as under:

> *"20. After careful consideration, we are of the view that the cost of minor assets originally included in the capital cost of the projects and replaced by new assets should not be reduced from the gross block, if the cost of the new assets is not considered on account of implication of the regulations. In other words, the value of the old assets would continue to form part of the gross block and at the same time the cost of new assets would not be taken into account. The generating station should not be debarred from servicing the capital originally deployed on account of procurement of minor assets, if the services of those assets are being rendered by similar assets which do not form part of the gross block."*

32. The respondent, BRPL vide its reply dated 8.7.2015 has submitted that the minor assets/spares which are de-capitalized is required to be adjusted in the capital cost as per proviso under Regulation 7(1)(c) of the 2009 Tariff Regulations. It has also submitted that the petitioner has not deleted this de-capitalization from the capital cost (as in Annexure-II to Form-9) and hence not complied with the express provisions of the 2009 Tariff Regulations, but has only adjusted the additional capitalization not to be claimed (nature of minor assets) with the de-capitalization mentioned, thereby not giving full play to the said proviso. The respondent has further submitted that the order dated 7.9.2010 refers to the tariff period 2004-09 and cannot be applied to the instant case which is covered by the provisions of the 2009 Tariff Regulations. Referring to the judgment dated 1.7.2014 of the Appellate Tribunal for Electricity (the Tribunal) in Appeal No. 169/2013 (GRIDCO Ltd v Bhushan Power Ltd), the respondent has stated that the Commission has no power to add, substitute or delete any provision of the regulation. The respondent vide its additional reply dated 21.7.2015 has pointed out that the order of the Commission dated 20.4.2011 in Petition No.183/2009 disallowing NTPC to retain the capital value of the assets like wagons which were earlier de-capitalized in the books of accounts have been

affirmed by the Tribunal vide its judgment dated 2.1.2013 in Appeal No. 84/2011 and is applicable in the instant case. Accordingly, the respondent has stated that the order dated 7.9.2010 followed by the petitioner is not applicable on this issue and the same may be rejected by the Commission. In response, the petitioner vide its rejoinder dated 6.8.2015 has clarified that the submission of the respondent BRPL that the de-capitalization of minor assets, tools & tackles, furniture & fixtures is required to be adjusted in the capital cost as per proviso to Regulation 7(1)(c) of the 2009 Tariff Regulations is incorrect, since the said proviso is for the assets which are allowed by the Commission under Regulation 7, 8 and 9 of the 2009 Tariff Regulations. It has also submitted that the items proposed under deletion are not part of the capital cost and hence not to be deducted from capital cost. The petitioner has further stated that on a combined reading of Regulation 7, 8 and 9 of the 2009 Tariff Regulations, it is clear that those assets which are forming part of the capital cost of hydrogenating stations [(i.e actual expenditure upto the cut-off date and within the original scope including initial spares for new generating stations & additional capitalization allowed under Regulation 9(2)], if declared not in use would be taken out from capital cost.

33. We have examined the matter. It is noticed that the provisions of both the 2004 and the 2009 Tariff Regulations provide that the expenditure on minor items/assets, tools and tackles etc procured after the cut-off date shall not be considered for additional capitalization for determination of tariff. It is observed that the judgment of the Tribunal in NTPC case pertained to wagons which are capital assets and are permitted to be capitalized as per the regulations. In the judgment, the Tribunal had observed that since the wagons had been de-capitalized, the gross value of the de-capitalized wagons was to be deducted from the capital cost. Para 10 of the judgment is quoted as under:

> *"10. These Regulations would indicate that the capital cost of generating station is a cost which was incurred in commissioning the plant and any other additional expenditure made for efficient running of the plant. The tariff of the Generating Stations is determined on cost plus basis meaning thereby that any capital expenditure incurred which will enhance the efficiency of the plant will be capitalized and the tariff will be determined accordingly. Similarly, if any asset is taken out of service, then its gross value will be deducted from the capital cost of the plant. The Appellant has claimed to retain the de-capitalized amount in respect of wagons and capitalized spares during the period 2008-09. If the equipment is not rendering any service, the same cannot be retained in the capital cost for the purpose of tariff as no benefit out of the same is being given to the beneficiaries."*

31. The present case is distinguishable from the facts of the case which was decided in the said appeal. The minor assets are not considered as capital assets and are not permitted to be capitalised after the cut-off date. In our view, since the cost of new assets would not be taken into account by implication of the regulations, the value of old assets should be permitted to continue to form part of the gross block. In other words, if the cost of the new assets is not considered on account of implication of the regulations, the cost of minor assets originally included in the capital cost of the projects and replaced by new assets should not be reduced from the gross block. The generating station should not be debarred from servicing the capital originally deployed on account of procurement of minor assets, if the services of these assets are being rendered by similar assets which do not form part of the gross block. In this background and in line with the decision of the Commission in order dated 7.9.2010, the negative entries corresponding to the deletion of minor assets are allowed to be excluded/ ignored for the purpose of tariff.

34. The exclusion of negative entries arising due to inter-head adjustments is also allowed as the positive adjustments have also been excluded/ ignored. Similarly, exclusion of negative entries arising due to inter-unit transfer of minor assets is allowed as the capitalization of these minor assets are not allowed after the cut-off date.

35. In view of this, the following amounts have been excluded/ignored for the purpose of tariff as under:

(₹ in lakh)

Sl. No.		2012-13	2013-14
i	De-capitalization due to ERV	(-)12330.98	0.00
ii	Deletion under exclusion category (deletion for minor assets/tools/tackles etc. which are not considered by CERC for add-cap)	(-) 2.16	(-) 68.05
iii	Inter head adjustments	0.00	(-) 892.27
iv	Inter unit transfer of minor assets	(-)14.39	(-) 0.81
		(-)12347.53	**(-) 961.13**

Assumed Deletions

36. As per consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified is allowed for the purpose of tariff provided that the capitalization of the said asset is followed by the de-capitalization of the value of the old asset. However, in certain cases

where de-capitalization is proposed to be effected /affected during the future years to the year of capitalization of new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as “Assumed deletion”. The amounts considered by the petitioner under this head are as under:

(₹ in lakh)

2012-13	**2013-14**
(-) 3.23	0.00

37. Against the expenditure towards the replacement of X-ray machine during 2012-13, the petitioner has claimed assumed de-capitalization of old asset amounting to (-)₹3.23 lakh. The same is found to be in order and the assumed deletion claimed is considered for the purpose of tariff.

Un-discharged liabilities and discharge of liabilities

38. The petitioner has submitted the details of the un-discharged liabilities and the discharge of liabilities during 2012-14 as under:

(₹ in lakh)

	2012-13	**2013-14**
Liability discharged during the year 2009-12 for the additional capital	0.11	0.00
Liability existed as on 31.3.2009 discharged during the year	0.00	74.57

39. The un-discharged liabilities and discharge of liabilities as above have been considered for working out the admissible additional capital expenditure for the period 2012-14. Accordingly, the actual additional capital expenditure allowed for the period 2012-14 for the purpose of tariff is as under:

40. Based on the above discussions, the actual additional capital expenditure allowed for the period 2012-14 for the purpose of tariff is as under:-

(₹ in lakh)

	2012-13	**2013-14**
Additions against works already approved by Commission	3.94	17.50
Additions not projected earlier but incurred and claimed	38.77	21.89
Inter-Unit transfer	0.00	17.39
Total additions allowed **(a)**	**42.71**	**56.78**
Deletions allowed **(b)**	(-)356.10	(-)1127.54
Assumed deletions considered **(c)**	(-)3.23	0.00
Total additional capital expenditure allowed before un-discharged/	**(-)316.62**	**(-)1070.76**

discharged liabilities **(d)=(a)+(b)+(c)**		
Liability discharged during the year for the Add. Cap. 2009-12 **(e)**	0.11	0.00
Liability existed as on 31.3.2009 discharged during the year **(f)**	0.00	74.57
Additional Capital Expenditure allowed (g)=(d)+(e)+(f)	**(-)316.51**	**(-)996.19**

Capital cost for 2012-14

41. The Commission in order dated 26.2.2014 in Petition No.229GT/2013 had considered the closing capital cost of ₹176196.73 lakh as on 31.3.2012. Accordingly, this capital cost of ₹176196.73 lakh has been considered as the opening capital cost as on 1.4.2012 for revision of tariff for 2012-14:

(₹ in lakh)

	2012-13	**2013-14**
Opening capital cost as on 1.4.2012	176196.73	175873.76
Admitted Additional capital expenditure	(-) 316.51	(-) 996.19
Closing capital cost	**175880.22**	**174884.03**

Return on Equity

42. In terms of Regulation 15 (3) of the 2009 Tariff Regulations, Return on Equity is computed as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Gross Notional Equity	47301.89	47540.12	47745.06	47558.60	47463.65
Addition due to additional capital expenditure	238.24	204.94	-186.46	-94.95	-298.86
Closing Equity	47540.12	47745.06	47558.60	47463.65	47164.79
Average Equity	47421.01	47642.59	47651.83	47511.12	47314.22
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.750%	16.500%
Tax rate for the year	33.990%	33.218%	32.445%	20.008%	20.961%
Rate of Return on Equity	23.481%	23.210%	22.944%	19.689%	20.876%
Return on Equity	**11134.93**	**11057.85**	**10933.24**	**8438.93**	**8804.23**

43. The Base Rate has been changed from 15.5% to 16.5% for storage type generating stations including pumped storage hydro generating stations and Run of River generating station with pondage in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Third Amendment) Regulations, 2012, w.e.f. 1.1.2013. The rate of ROE (pre-tax) for the year 2012-13 (19.689%) is the composite rate calculated for the year.

Interest on Loan

44. In terms of Regulation 16 of the 2009 Tariff Regulations, interest on loan has been worked out as under**:**

(i) The opening gross normative loan as on 1.4.2009 has been arrived at in accordance with Regulation 16 of the 2009 Tariff Regulations.

(ii) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.

(iii) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.

(iv) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

(v)The consequential impact of the judgment of the Tribunal in respect of the period 2004-09 has been considered while calculating the cumulative repayment up to previous year.

45. Necessary calculations for interest on loan are as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	128039.13	128595.02	129073.21	128638.13	128416.57
Cumulative Repayment up to Previous Year	8509.36	17461.40	26448.20	35452.43	44444.90
Net Loan-Opening	119529.77	111133.62	102625.01	93185.70	83971.67
Repayment during the year	8952.04	8986.80	9004.24	8992.47	8951.29
Addition due to Additional Capitalization	555.88	478.19	(-) 435.08	(-) 221.56	(-) 697.33
Net Loan-Closing	111133.62	102625.01	93185.70	83971.67	74323.05
Average Loan	115331.70	106879.32	97905.35	88578.68	79147.36
Weighted Average Rate of Interest on Loan	3.236%	3.217%	3.187%	3.225%	3.135%
Interest on loan	**3732.56**	**3438.78**	**3120.00**	**2857.03**	**2481.37**

Depreciation

46. In terms of Regulation 17 of the 2009 Tariff Regulations, the weighted average rate of depreciation of 5.108% and 5.104% has been considered for the years 2012-13 and 2013-14 respectively, Accordingly, depreciation has been worked out as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block as on 31.3.2009	175341.02	176135.14	176818.27	176196.73	175880.22
Admitted Additional capital expenditure	794.12	683.13	(-) 621.54	(-) 316.51	(-) 996.19
Closing gross block	176135.14	176818.27	176196.73	175880.22	174884.03
Average gross block	175738.08	176476.70	176507.50	176038.47	175382.12
Land related cost	1012.35	1012.35	864.05	663.25	610.75
Rate of Depreciation	5.094%	5.092%	5.101%	5.108%	5.104%
Depreciable Value	157253.16	157917.92	158079.10	157837.70	157294.24
Remaining Depreciable Value	143642.76	135357.24	126536.04	117484.52	108049.19
Depreciation	**8952.04**	**8986.80**	**9004.24**	**8992.47**	**8951.29**

Operation & Maintenance Expenses

47. O&M expenses as allowed in order dated 26.2.2014 in Petition No. 229/GT/2013 has been considered as under:

(₹ in lakh)

2012-13	2013-14
6323.28	6684.98

Interest on working capital

48. **Receivables:** In terms of Regulation 18(1) (c) (i) of 2009 Tariff Regulations, receivables equivalent to two months of fixed cost has been considered as under:

(₹ in lakh)

2012-13	2013-14
4558.48	4613.01

49. **Maintenance Spares:** Regulation 18(1) (c) (ii) of 2009 Tariff Regulations, provides for Maintenance spares @ 15% of operation and maintenance expenses as specified in Regulation 19, the same has been considered as under:

(₹ in lakh)

2012-13	2013-14
948.49	1002.75

50. **O&M Expenses (one month):** Regulation 18(1) (c) (ii) of 2009 Tariff Regulations provides for operation and maintenance expenses for one month and the same has been considered as under.

(₹ in lakh)

2012-13	2013-14
526.94	557.08

Rate of interest on working capital

51. Regulation 18(3) of 2009 Tariff Regulations provide that the Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later.

52. In accordance with Regulation 18(3) of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State

Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later. The SBI PLR as on 1.4.2009 was 12.25% has been considered for computation of the interest on working capital. Accordingly, Interest on Working Capital has been calculated and allowed as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	802.72	848.63	897.17	948.49	1002.75
O & M expenses	445.95	471.46	498.43	526.94	557.08
Receivables	4989.18	4985.57	4969.73	4558.48	4613.01
Total	**6237.86**	**6305.67**	**6365.34**	**6033.91**	**6172.84**
Interest on Working Capital	**764.14**	**772.44**	**779.75**	**739.15**	**756.17**

Annual Fixed charges

53. Accordingly, the annual fixed charges approved in respect of the generating station for the period 2009-14 are summarized as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	11134.93	11057.85	10933.24	8438.93	8804.23
Interest on Loan	3732.56	3438.78	3120.00	2857.03	2481.37
Depreciation	8952.04	8986.80	9004.24	8992.47	8951.29
Interest on Working Capital	764.14	772.44	779.75	739.15	756.17
O & M Expenses	5351.45	5657.55	5981.16	6323.28	6684.98
Total	**29935.11**	**29913.42**	**29818.39**	**27350.86**	**27678.04**

54. The difference between the annual fixed charges already recovered by the petitioner and the annual fixed charges determined by this order as above shall be adjusted in terms of Clause (6) of Regulation 6 of the 2009 Tariff Regulations.

Determination of Annual Fixed Charges for the period 2014-19

55. As stated, the petitioner in this petition has also prayed for the determination of annual fixed charges of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the annual fixed charges claimed by the petitioner for the period 2014-19 are as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	8938.82	8948.59	8951.50	8962.89	2845.95
Interest on Loan	2000.80	1729.61	1450.25	1177.46	1002.66
Return on Equity	9862.02	9874.00	9877.57	9891.55	9916.41
Interest on Working Capital	875.56	896.18	918.01	942.29	830.01
O & M Expenses	7181.89	7659.05	8167.92	8710.59	9289.33
Total	**28859.08**	**29107.43**	**29365.25**	**29684.78**	**23884.36**

56. In response to the directions of the Commission the petitioner has submitted additional information and has served copies of the same on the respondents. No reply has been filed by the respondents. Accordingly, the claims of the petitioner for the period 2014-19 are considered and allowed on prudence check, as detailed in the subsequent paragraphs.

Capital Cost

57. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects. Clause (3) of Regulation 9 provides as under:

> *"9(3) The Capital cost of an existing project shall include the following:*
>
> *(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
>
> *(b) xxxx*
>
> *(c) xxxx*

58. The closing capital cost considered by the Commission as on 31.3.2014 in this order is ₹174884.03 lakh. This has been considered as the opening capital cost as on 1.4.2014 for determination of tariff for the period 2014-19.

Actual/ Projected Additional Capital Expenditure during 2014-19

59. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted upto 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19.

60. Regulation 14 (3) of the 2014 Tariff Regulations, provides as under:

> *"14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

61. The year-wise breakup of the projected additional capital expenditure claimed by the petitioner vide affidavit dated 10.7.2015 is as under:

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Projected Additional capital expenditure claimed on gross basis	28.07	164.54	363.00	49.00	0.00
De-capitalization	7.33	6.18	0.00	5.42	0.00
Net Additional capital expenditure claimed	**20.74**	**158.36**	**363.00**	**43.58**	**0.00**

62. Before proceeding, we examine some of the general issues raised by the respondent, BRPL as regards the claim for additional capitalization of assets/items by the petitioner during 2014-19. The petitioner in this petition has claimed additional capital expenditure for assets/items for the period 2014-19 under Regulation 14(3) (viii) of the 2014 Tariff Regulations. The respondent, BRPL has submitted that the claim of the petitioner for projected additional capital expenditure (Purchase of Submersible pumps along with accessories for disaster management and Purchase of Tipper on replacement basis) under Regulation 14(3)(viii) shall be read with Regulation 14(3)(vii) which require that the claim for expenditure for replacement of assets which are necessary for efficient operation of the plant shall be substantiated with technical justification duly supported by documentary evidence like test results carried out by independent agency in case of deterioration of the assets. Accordingly, it has been submitted the claim may be rejected as the same has not been submitted in this case. The respondent has added that the expenditure on procurement of minor assets may not be allowed.

63. In response to the submissions of respondent, BRPL the petitioner has stated that the production of test results carried out by independent agency is neither required nor economically advisable for such small and essential requirements as the hiring of independent agency for such small items will be cost prohibitive and be shall be an additional burden on the beneficiaries. The petitioner has clarified that Regulation 14(3)(vii) is not applicable in respect of the assets indicated by the respondent BRPL as these are being replaced on account of completion of estimated life of equipment with justification.

64. We have examined the matter. The petitioner has claimed capitalization of the expenditure under Regulation 14(3)(viii) which also provides for capitalization of expenditure incurred due to additional work which has become necessary for successful and efficient operation of plant. The

submission of the respondent, UPPCL that assets/works claimed by the petitioner should be considered under O&M expenses cannot be accepted as the expenditure claimed for capitalization is in respect of works of capital nature and are not in the nature of revenue expenses. Moreover, the contention of the respondent, BRPL that Regulation 14(3)(viii) should be read with Regulation 14(3)(vii) in respect of expenditure incurred on replacement assets and that the same should be supported by documentary evidence like test results carried out by independent agency in case of deterioration of the assets, is also not acceptable. In our view, the requirement of documentary evidence like test results etc., carried out by independent agency will be necessary in case of assets which have deteriorated prior to the expiry of useful life and accordingly sought to be replaced. In the instant case, these assets are being replaced on account of obsolescence /deterioration etc., after expiry of its useful life in consideration of year-wise assets which were put to use. However, there may be some assets which are serviceable even after the expiry of their useful life and should be put to use instead of seeking their replacement in a routine manner. In our view, the petitioner should support its claim either on the basis of the certificate by the OEM or its technical committee to the effect that the subject assets cannot be kept in service on account of its obsolescence or it being beyond economic repair. Though we are allowing capitalization of these assets under Regulation 14(3)(viii) of the 2014 Tariff Regulations, we direct that the petitioner shall place on record the necessary certificate from the OEM or its technical committee at the time of truing-up of tariff . Similar approach shall be adopted in other cases where additional capitalization has been allowed under Regulation 14(3)(viii) of the 2014 Tariff Regulations.

65. The petitioner in the petition has submitted as under:

> "*Dhauliganga Power Station suffered major loss due to heavy flood on 00:00 Hrs of 17.6.2013 in river Dhauliganga. With best possible efforts NHPC has restored this project in between May – June 2014. The additional expenditure on restoration of power station has yet not been finalized. Hence, same is not covered in additional capitalization for the period 2009-14/2014-19. NHPC has claimed insurance from National Insurance and part payment has also been released. Once the total expenditure on restoration of Power Station is finalized, and insurance proceeds settled with insurance company, NHPC will submit the separate petition for reimbursement of balance of expenditure.*
>
> *Due to heavy flood and siltation in reservoir area, the design energy and peaking capability of the power station may go under change. The above effect will be brought to the notice of the Commission after detail study and analysis. The Commission is requested to direct concerned SLDC/ NRLDC to schedule generation as per present operating parameters".*

66. In response to the directions of the Commission vide ROP of the hearing dated 16.7.2015, the petitioner vide affidavit dated 6.8.2015 has submitted as under:

"*After the flood incident on 17.6.2013, the four units of Dhauliganga Power Station have been restored on dates mentioned below*:

1. *Unit#1 on 24.05.2015*
2. *Unit#2 on 19.06.2014*
3. *Unit#3 on 03.05.2014*
4. *Unit#4 on 05.05.2014*

Insurance claim against damage in Dhauliganga Power Station has been filed. The claimed is partially settled and rest is in process. Details of insurance claim/settlement are as under:

Description	***Amount (Rs. in crore***
Total claim lodged with Insurance Company	*543.30*
Amount received from Insurance Company till date	*240.00*
Deductible under Mega Insurance Policy	*2.10*

It is also certified that the beneficiaries have not been billed during the outage period of the power station for Annual Fixed Charges (AFC).

67. Accordingly, based on the submissions of the parties and the documents available on record, the claims of the petitioner for the period 2014-19 are considered and allowed on prudence check, after reduction of the gross value of old assets, wherever necessary, as detailed in the subsequent paragraphs.

2014-15

(₹ in lakh)

Sl. No.	Assets/ Works	Amount claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount Allowed
1	Purchase of Tipper	12.64	On replacement basis. The old Tipper No. UP03-3411 has completed its useful life as per NHPC disposal policy.	**Allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station. The gross value of old asset is considered as ₹ 1.70 lakh.	**10.94** (12.64-1.70)

2	Purchase of Digital EPABXs at Nigalpani & Tapovan	11.41	Old exchanges are obsolete and have completed their useful life. These exchanges are unable to cater the needs of Admin. Office, Tapovan & Residential Colony, hence, required replacement.	**Allowed** on replacement basis under Regulation 14(3)(viii) of the 2014 Tariff Regulations since the asset is considered necessary for efficient operation of the generating station. The gross value of old assets is considered as ₹5.31 lakh.	**6.10** (11.41-5.31)
3	Purchase of Ambulance	4.02	On replacement basis. The old Ambulance No. UP03-4019 has completed its useful life as per NHPC disposal policy.	**Allowed** under Regulation 14(3) (viii), since the asset would benefit the employees working and accordingly contribute to the successful and efficient operation of the generating station. The gross value of old asset is considered as ₹ 0.32 lakh.	**3.70** (4.02-0.32)
	Total amount claimed				**28.07**
	Total amount allowed after de-capitalization				**20.74**

2015-16

(₹ in lakh)

Sl. No	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount Allowed
1	Construction of additional rooms & lab above Dam control room building	27.27	In June, 2013 cloudbursts and heavy rains in higher reaches resulted in to flash floods consequently unprecedented discharge and high water levels in Kali River & Elagad Nallah. Dhauli Ganga Power Station has suffered major damages to Equipments, major structures, infrastructure, approaches and other facilities in Dam Complex. Dam area was totally cut off from remaining part of Power station. There was no approach to Dam site. Staff working in Dam area and in shift duty got struck there for 15	**Allowed** under Regulation 14(3)(viii) of the 2009 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station.	**27.27**

			days. Approach road to Jhanku colony also got damaged very badly. The road to Dam passes through steep hilly terrene and massive landslides area. These are every possibility of blockage of this road even due to small rain. The approach road to Jhamku colony is also not reliable, every possibility of getting blockage in small rains. It is proposed to create additional accommodation in Dam control room building so that staff and officers deputed in shift duties and thereby this infrastructure will help in increasing the efficiency and successful operation of power plant. Adjacent to the additional accommodation, as above, a room for quality control lab has been envisaged to be constructed for measurement of silt in the river. The measurement of silt is very important and essential and it is taken on hourly basis to know the quantity of silt flowing in the water fed to turbine. Presently, no separate room for Q/C lab is available at dam and keeping in view the sensitivity and importance of the accurate silt measurement, a separate room for quality control lab is required to be constructed.		
2	Construction of	50.00	There is no	**Allowed** under Regulation	**50.00**

	permanent store building at Dam site		permanent store building at Dam site. For the storage of equipments and material being used regularly for O&M of dam, store building is required at Dam Site. Central Stores is about 30 kms away from the dam and condition of road is very miserable, likely blockade at several places during monsoon season. Therefore, construction of new store is very essential for efficient and successful operation of the power plant. By creating Store Building, the necessary items will be available for fitment/ replacement in very short time.	14(3)(viii) of the 2009 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station.	
3	Provision for Proper water supply arrangement at Jhamku Transit camp & colony	10.00	The existing water supply system at Jamku colony of dam site is not reliable and gets disrupted regularly. The O&M staff of dam site used to stay in Jamku transit camp especially during monsoon season for successful operation of dam. Without proper water facilities, it will be difficult for staying there and it will affect the operation of power plant. It is therefore required to strengthen the water supply system at Jamku colony. The expenditure for the work was allowed by CERC during 2010-11. However the work could not be taken up.	**Allowed** under Regulation 14(3) (viii) of the 2009 Tariff Regulations, since the asset would benefit the employees working and accordingly contribute to the successful and efficient operation of the generating station.	**10.00**
4	Purchase of 32 Seater Mini Bus	16.00	On replacement basis. The old mini	**Allowed** under Regulation 14(3)(viii) of the 2009 Tariff	**11.52** (16.00-

			bus No. UA05-2673 has completed its useful life as per NHPC disposal policy.	Regulations, since the asset is considered necessary for efficient operation of the generating station. The gross value of old asset is considered as ₹4.48 lakh.	4.48)
5	Purchase of 42 Seater Bus	20.00	On replacement basis. The old Bus No. UA05-0076 have completed its useful life as per NHPC disposal policy.	**Allowed** under Regulation 14(3)(viii), since the asset is considered necessary for efficient operation of the generating station. The gross value of old asset is considered as ₹ 1.70 lakh	**18.30** (20.00-1.70)
6	On line Moisture Measurement	5.59	There are 13 generator transformers in Dhauliganga Power Station which are badly affected due to submergence of power house. During restoration, two transformer coil become faulty and under repair. Often we need to conduct moisture measurement tests on transformers to check the healthiness whenever faults occur. On Line Moisture Measurement is essential to check online PPM of the transformer oil.	**Not allowed** as the asset is in the nature of "Tools & Tackles".	**0.00**
7	HV Test Kit (AC)	23.00	Often we need to conduct some specific tests on stators to check the healthiness whenever fault occurs. We require to conduct test during annual maintenance also.	**Not allowed** as the asset is in the nature of "Tools & Tackles".	**0.00**
8	Biometric attendance system	12.68	Implementation of Biometric attendance system has been made mandatory in NHPC Ltd. vide O/o 64/2014 dated 21.11.2014.	**Not allowed** as the asset is of minor nature.	**0.00**
Total amount claimed					**164.54**
Total amount allowed after de-capitalization					**117.09**

2016-17

(₹ in lakh)

Sl. No.	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount Allowed
1	Purchase of submersible pumps along with panels, cables & Pipe line etc for disaster management	162.00	It has been observed during flooding of power house that there should be separate system for dewatering of the power house during such disasters. The normally installed submersible pumps have submergence level of 20mtrsonly Hence special pumps with separate power supply along with transformers are required. This will reduce the dewatering time and moreover it will reduce the damages to the equipments and it is very much essential for safety of power house.	**Allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station.	162.00
2	Multipurpose Fire Tender	34.00	Multipurpose Fire Tender is required to be purchased based on corporate safety div.IOM no.NH / Safety / FT/2015/237 dated 13.4.2015	**Allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations, since the asset is considered necessary for efficient operation of the generating station.	34.00
3	Construction of Water Treatment Plant at Nigalpani	30.00	There is no water treatment Plant at Nigalpani. Water from the source is directly feed to the residents causing various health related problems. Water treatment plant to filter / purify the water of the source is required.	**Allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations, since the asset/work is for the benefit of the employees working in the remote location and accordingly contribute to the successful and efficient operation of the generating station.	30.00
4	Construction of Incineration Chamber Plant at Nigalpani	22.00	The house hold waste is collected door to door manually, segregated and further disposed off in pits. Keeping in view of environmental	**Not allowed** as the same is not directly related to plant operation.	0.00

			aspects, final disposal of solid waste should be in acceptable form. High efficiency portable double chamber Electric incinerator for waste burning capacity is required to burn solid waste of the entire colony.		
5	Construction of Sewerage Treatment Plant at Nigalpani	50.00	At present sewage is being collected in septic tank and final disposal of sewage is being done through soak pits in ground/earth which is objectionable. Keeping in view of environmental aspects, contamination of earth & underground water is strictly prohibited. Final disposal of sewage water should be in acceptable form i.e. it should be fit for pisciculture for irrigation purpose. This Sewerage treatment plant is to be installed first time in Power station.	**Allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations as the asset will facilitate the efficient operation of plant	50.00
6	Construction of Sewerage Treatment Plant at Dobat	13.00			13.00
7	Turn Ratio Meter	6.00	Often we need to conduct some specific tests on transformers to check the healthiness whenever faults occur. We require to conduct test during annual maintenance also.	**Not allowed** as the asset is in the nature of "Tools & Tackles".	0.00
8	Tan (Delta) Kit	46.00	There are 13 generator transformers in DGPS which are badly affected due to submergence of Power House. During restoration, two transformer coils become faulty and under repair Often		0.00

			we need to conduct some specific tests on transformers to check the healthiness whenever faults occurs. We have to hire Tan Delta kit from Power Grid Pithoragarh. We require to conduct test during annual maintenance also.		
Total amount claimed					**363.00**
Total amount allowed after de-capitalization					**289.00**

2017-18

(₹ in lakh)

Sl. No.	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks for admissibility	Amount Allowed
1	Purchase of Ambulance duly equipped	15.00	On replacement basis. The old Ambulance No. UA05-2672 has completed its useful life as per NHPC disposal policy.	**Allowed** under Regulation 14(3)(viii) of the 2009 Tariff Regulations, since the asset/work is for the benefit of the employees working in the remote location and accordingly contribute to the successful and efficient operation of the generating station. The gross value of old asset is considered as ₹ 4.61 lakh.	**10.39** (15.00-4.61)
2	Purchase of fire Tender	34.00	On replacement basis. The old Fire Tender No. UP03-4244 has completed its useful life as per NHPC disposal policy.	**Allowed** under Regulation 14(3)(viii), since the asset is considered necessary for efficient operation of the generating station. The gross value of old asset is considered as ₹ 0.81 lakh.	**33.19** (34.00-0.81)
Total amount claimed					**49.00**
Total amount allowed					**43.58**

2018-19

68. No additional capital expenditure has been claimed by the petitioner for the year 2018-19.

69. Based on the above, the net additional capital expenditure allowed for the period 2014-19 is summarized as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Admitted Additional capital expenditure	28.07	123.27	289.00	49.00	0.00
De-capitalization	7.33	6.18	0.00	5.42	0.00
Net Additional Capital expenditure allowed	**20.74**	**117.09**	**289.00**	**43.58**	**0.00**

Capital Cost for 2014-19

70. As stated, the closing capital cost as on 31.3.2014 is ₹174884.03 lakh. The same has been considered as the opening capital cost as on 1.4.2014. Accordingly, the capital cost considered for the purpose of tariff for the period 2014-19 is as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Capital Cost	174884.03	174904.77	175021.86	175310.86	175354.44
Admitted Additional Capital expenditure	20.74	117.09	289.00	43.58	0.00
Capital Cost as on 31st March of the year	**174904.77**	**175021.86**	**175310.86**	**175354.44**	**175354.44**

Debt-Equity

71. Regulation 19 of the 2014 Tariff Regulations provides as under:

> "*19. Debt-Equity Ratio*
>
> *(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:*
>
> *Provided that:*
>
> *i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*
>
> *ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*
>
> *iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio."*

72. Accordingly, the debt-equity ratio of 70:30 has been considered for the purpose of tariff.

Return on Equity

73. Regulation 24 of the 2014 Tariff Regulations provides as under:

> ***"****24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*
>
> *(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*
>
> *Provided that:*
>
> *i). in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
>
> *ii). the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*

iii). additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.

74. The Base rate has been grossed up with the MAT rate for the year 2013-14. Accordingly, in terms of the above regulations, Return on Equity has been computed as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	47164.69	47171.01	47206.14	47292.84	47305.91
Addition due to Additional capital expenditure	6.22	35.13	86.70	13.07	0.00
Closing Equity	47171.01	47206.14	47292.84	47305.91	47305.91
Average Equity	47167.90	47188.58	47249.49	47299.38	47305.91
Return on Equity (Base Rate)	16.500%	16.500%	16.500%	16.500%	16.500%
Tax rate for the year	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-Tax)	20.876%	20.876%	20.876%	20.876%	20.876%
Return on Equity (Pre Tax)	**9846.77**	**9851.09**	**9863.80**	**9874.22**	**9875.58**

75. The petitioner is directed to furnish on affidavit, the effective tax rates along with the Tax Audit Report for the period 2015-19 at the time of truing-up of tariff of the generating station in terms of the 2014 Tariff Regulations.

Interest on Loan

76. Regulation 26 of the 2014 Tariff Regulations provides as under:

*"26. Interest on loan capital**:** (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis

and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest
and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

77. Interest on loan has been worked out as under**:**

(i) The opening gross normative loan as on 1.4.2014 has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulations.

(ii) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.

(iii) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.

(iv) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

(v)The consequential impact of the judgment of the Tribunal in respect of the period 2004-09 has been considered while calculating the cumulative repayment up to previous year.

78. Necessary calculations for interest on loan are as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	127719.24	127733.76	127815.72	128018.02	128048.53
Cumulative Repayment up to previous year	53396.19	62322.59	71252.50	80192.77	89141.53
Net Loan-Opening	74323.05	65411.17	56563.22	47825.25	38906.99
Repayment during the year	8926.39	8929.91	8940.28	8948.76	2821.05
Addition due to Additional Capitalization	14.52	81.96	202.30	30.51	0.00
Net Loan-Closing	65411.17	56563.22	47825.25	38906.99	36085.94
Average Loan	69867.11	60987.20	52194.24	43366.12	37496.46
Weighted Average Rate of Interest on Loan	3.0861%	3.0874%	3.0783%	3.0734%	3.0677%
Interest on loan	**2156.19**	**1882.90**	**1606.69**	**1332.82**	**1150.28**

Depreciation

79. Regulation 27 of the 2014 Tariff Regulations provides as under:

*"**27. Depreciation:** (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.*

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) alongwith justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services."

80. The COD of the generating station is 1.11.2005. Since the generating station shall be completing 12 years of commercial operation as on 1.11.2017, the weighted average rate of depreciation of 5.104% as per the above regulation has been considered for the calculation of depreciation during the years 2014-15 to 2017-18. The remaining depreciable value has been spread over the balance useful life of the project from 2018-19. Accordingly, depreciation has been computed as under:

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	174884.03	174904.77	175021.86	175310.86	175354.44
Addition due to Additional Capital Expenditure	20.74	117.09	289.00	43.58	0.00
Closing Gross Block	174904.77	175021.86	175310.86	175354.44	175354.44
Average Gross Block	174894.40	174963.32	175166.36	175332.65	175354.44
Land related cost	610.75	610.75	610.75	610.75	610.75
Rate of depreciation	5.104%	5.104%	5.104%	5.104%	
Depreciable value	156855.29	156917.31	157100.05	157249.71	157269.32
Balance Useful life of the asset	0.00	0.00	0.00	0.00	22.58
Remaining Depreciable Value	99031.76	90170.19	81425.69	72635.07	63708.81
Depreciation	**8926.39**	**8929.91**	**8940.28**	**8948.76**	**2821.05**

O&M Expenses

81. The generating station is in operation for three or more years as on 1.4.2014. Accordingly, in terms of sub-section (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations, the year-wise O&M expense norms considered for the generating station of the petitioner for the period 2014-19 is as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
7181.89	**7659.05**	**8167.92**	**8710.59**	**9289.33**

Interest on working capital

82. Sub-section (c) of Clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

"28. Interest on Working Capital:

(1) The working capital shall cover

(c) Hydro generating station including pumped storage hydro electric generating Station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii)Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29; and

(iii) Operation and maintenance expenses for one month."

83. Receivables equivalent to two months of fixed cost have been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4831.62	4870.28	4916.62	4968.59	3994.69

84. Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29 have been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1077.28	1148.86	1225.19	1306.59	1393.40

85. O&M expenses for one month have been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
598.49	638.25	680.66	725.88	774.11

Rate of interest on working capital

86. Clause (3) of Regulation 28of the 2014 Tariff Regulations provides as under:

"Interest on working Capital: (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later."

87. In terms of the above regulations, the Bank Rate of 13.50% (Base Rate + 350 Basis Points) as on 1.4.2014 has been considered by the petitioner. This has been considered in the calculations for the purpose of tariff.

88. Necessary computations in support of interest on working capital are appended below:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	1077.28	1148.86	1225.19	1306.59	1393.40
O & M expenses	598.49	638.25	680.66	725.88	774.11
Receivables	4831.62	4870.28	4916.62	4968.59	3994.69
Total	6507.40	6,657.40	6,822.47	7,001.06	6,162.20
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**878.50**	**898.75**	**921.03**	**945.14**	**831.90**

89. Accordingly, the annual fixed charges approved for the generating station for the period from 1.4.2014 to 31.3.2019 is summarized as under**:**

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	9846.77	9851.09	9863.80	9874.22	9875.58
Interest on Loan	2156.19	1882.90	1606.69	1332.82	1150.28
Depreciation	8926.39	8929.91	8940.28	8948.76	2821.05
Interest on Working Capital	878.50	898.75	921.03	945.14	831.90
O & M Expenses	7181.89	7659.05	8167.92	8710.59	9289.33
Total	**28989.74**	**29221.70**	**29499.72**	**29811.54**	**23968.14**

Normative Annual Plant Availability Factor (NAPAF)

90. Clause (4) of Regulation 37 of the 2014 Tariff Regulations provides for the Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations already in operation. Accordingly, the NAPAF of 90% has been considered for this generating station.

Design Energy

91. The Commission in its order dated 14.3.2011 in Petition No.109/2010 had approved the annual Design Energy (DE) of 1134.69 Million Units for the period 2009-14 in respect of this generating station. This DE has been considered for this generating station for the period 2014-19 as per month wise details hereunder:

Month	Design Energy (MU)
April	56.08
May	91.26
June	144.33
July	208.32
August	208.32

September	160.00
October	94.40
November	52.48
December	31.69
January	31.62
February	25.89
March	30.30
Total	**1134.69**

92. With regard to change in design energy and peaking capability of the station due to heavy flood and siltation, the petitioner has submitted as under:

> *"Due to heavy flood and siltation in reservoir area, the design energy and peaking capability of the power station may go under change and that the above effect will be brought to the notice of Hon'ble Commission after detail study and analysis. Hon'ble commission is requested to direct concerned SLDC/ NRLDC to schedule generation as per present operating parameters."*

93. In consideration of the above, Commission has allowed liberty to the petitioner for approaching Commission through miscellaneous petition for revision of design energy and peaking capability based on the detail study and analysis. However, pending such filing of data/petition, the existing design energy of 1134.69 MUs and NAPAF of 90% shall prevail for the purpose of billing, subject to change based on the decision of Commission regarding revision of these values due to floods and siltation.

Application Fee and Publication Expenses

94. The petitioner has deposited the filing fees for the period 2014-19 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The petitioner has published the notice of the tariff petition for 2014-19 in the newspapers in terms of the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulation, 2004 and has vide affidavit dated 5.12.2014 submitted that it has incurred an expenditure of ₹421679/- for the same. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 6.1.2016 in Petition No.232/GT/2014, the petitioner shall be entitled to recover the filing fees for the year 2014-15 and the expenses incurred on publication of notices for the period 2014-19 directly from the respondents. The filing fees for the remaining years of the tariff period 2015-19 shall be reimbursed after deposit of the same and subject to production of documentary proof.

95. The annual fixed charges approved for the generating station for the period 2014-19 as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

96. Petition No. 230/GT/2014 is disposed of in terms of the above

Sd/-	***Sd/-***	***Sd/-***
(A.S. Bakshi)	**(A.K.Singhal)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Chairperson**