CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 226/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: 19.02.2016

In the matter of

Revision of annual fixed charges for the period 2009-14 after truing-up exercise and Determination of annual fixed charges for the period 2014-19 in respect of Tanakpur Hydroelectric Project (94.2 MW)

And in the matter of

NHPC Ltd,
NHPC Office Complex, Sector 33,
Faridabad – 121003 .....**Petitioner**

Vs

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

2. Haryana Power Purchase Centre,
Shakti Bhawan, Sector, 6
Panchkula – 134109

3. Uttar Pradesh Power Corporation Ltd
Shakti Bhavan, 14, Ashok Marg,
Lucknow – 226001

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

5. Tata Power Delhi Distribution Ltd
Sub-station Building, Hudson Lane
Kingsway Camp,
Delhi –110009

6. BSES Yamuna Power Ltd
Shaktikiran Building, Karkadooma,
Delhi – 110 019

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

8. Uttarakhand Power Corporation Ltd,
Urja Bhawan, Kanwali Road,
Dehradun-248001

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

10. Jaipur Vidyut Vitaran Nigam Ltd.,
Vidut Bhavan, Janpath,
Jaipur – 302005

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

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

13. Power Development Department,
Civil Secretariat,
Jammu-180001 (J&K) ....**Respondents**

Parties present

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

ORDER

This petition has been filed by the petitioner, NHPC, for revision of tariff in respect of Tanakpur Hydro Electric Project (94.2 MW) (the generating station) for the period 2009-14 after truing-up 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 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ("the 2014 Tariff Regulations").

2. The generating station was commissioned during April, 1993. Petition No. 75/2010 was filed by the petitioner for determination of tariff of the generating station for the period from 1.4.2009 to

31.3.2014 and the Commission by its order dated 10.5.2011 had determined the annual fixed charges for the generating station for the period 2009-14. Subsequently, the annual fixed charges determined by order dated 10.5.2011 were revised by Commission's order dated 15.6.2012 in Review Petition No. 14/2011. Thereafter, the Commission vide its order (corrigendum) dated 9.8.2012 in Review Petition No.14/2011, after correction of certain errors, modified the order dated 15.6.2012. Subsequently, tariff for the period 2009-14 was revised by Commission's order dated 9.6.2014 in Petition No.177/GT/2013 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. Accordingly, the annual fixed charges allowed for the period 2009-14 by the said order dated 9.6.2014 is as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Return on Equity	2295.78	2287.79	2292.49	1759.50	1761.33
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	888.75	902.06	926.61	942.43	945.04
Interest on Working Capital	298.04	311.40	326.02	330.05	345.81
O & M Expenses	4631.41	4896.32	5176.39	5472.48	5785.51
Total	**8113.98**	**8397.58**	**8721.51**	**8504.46**	**8837.69**

Revision of annual fixed charges for 2009-14

3. 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."

4. As stated, the petitioner in this petition has claimed revision of tariff for the period 2009-14 based on the actual additional capital expenditure incurred during the years 2012-13 and 2013-14 after truing up in accordance with the 2009 Tariff Regulations and for determination of annual fixed charges for the period 2014-19 in terms of the provisions of the 2014 Tariff Regulations. The petitioner has also sought amendment of the admitted additional capital expenditure and annual fixed charges for the year 2011-12 (allowed vide order dated 9.6.2014) on account of the net reduction of

₹42.00 lakh in 2011-12 towards Digital Automatic Voltage Regulator. Accordingly, the annual fixed charges claimed by the petitioner for the period 2011-14, based on the actual additional capital expenditure incurred during the years 2011-12 to 2013-14 are as under:

(₹in lakh)

	2011-12	2012-13	2013-14
Return on Equity	927.64	961.14	993.95
Interest on Loan	0.00	0.00	0.00
Depreciation	2293.93	1969.73	2021.71
Interest on Working Capital	326.07	334.83	352.25
O & M Expenses	5176.40	5472.49	5785.51
Annual Fixed Charges	**8724.04**	**8738.19**	**9153.42**

5. In terms of the decision of the Commission in order dated 12.11.2014 in Petition No 237/GT/2014 (NHPC -v-PSPCL & ors), the prayer of the petitioner for truing up of tariff for 2012-14 and determination of tariff for 2014-19 was clubbed and heard on 16.7.2015 and the Commission reserved its orders, after directing the petitioner to submit certain additional information. The petitioner has submitted the additional information with copy to the respondents. The respondents UPPCL and BRPL have filed replies in the matter and the petitioner has filed its rejoinder to the said replies. Accordingly, based on the submissions of the parties and the documents available on record, we proceed to revise the tariff for the period 2011-14 based on truing-up exercise and also for determination of tariff for the period 2014-19 in respect of the generating station as stated in the subsequent paragraphs:

Capital Cost

6. Regulation 7 (1) (a) of the 2009 Tariff Regulations provides as under:

> *"7. Capital Cost. (1) Capital cost for a project shall include: (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;"*

7. The Commission in its order dated 9.6.2014 in Petition No. 177/GT/2013 had considered the closing capital cost of ₹40276.49 lakh as the opening capital cost as on 1.4.2012 for revision of tariff

for 2009-14. Accordingly, this capital cost has been considered as the opening capital cost as on 1.4.2012 for revision of tariff for the period 2012-14.

8. The petitioner has prayed for revision of annual fixed charges for the year 2011-12 and has submitted as under:

> *"The tariff order in revision petition No. 177/GT/2013 in respect of Tankapur Power Station has been issued by Hon'ble Commission on 09.06.2014. In the revision petition, while determining the AFC for the FY 2011-12, Hon'ble Commission has allowed additional capital expenditure of Rs. 5.25 lakhs (Rs. 47.25 lakh– Rs. 42.0 lakhs) on account of Digital Automatic Voltage Regulator, whereas, the deletion of Rs. 47.25 lakhs has also been affected in the tariff order, resulting into a net reduction of Rs.42.0 Lakhs in the capital cost. We have requested the Hon'ble Commission vide our letter No. NH/Comml/Tariff/296/2014/ 1374 dtd.17.06.2014 for correction / modification of the error as per regulation 103 (1) of CERC (Conduct of Business) (Amendment) Regulation, 2009".*

9. The submissions have been examined. Regulation 7(1)(c)of the 2009 Tariff Regulations provides for reduction from capital base of the generating station, the gross value of the assets removed from service. It is pertinent to mention that the reduction of ₹42.00 lakh in the capital base represents the gross value of old digital voltage regulator removed from service and the same is in conformity with the above regulations. Accordingly, the prayer of the petitioner for increase in capital cost by ₹42.00 lakh and the consequent revision of tariff for the year 2011-12 merit no consideration.

Actual Additional Capital Expenditure (2012-13 and 2013-14)

10. Regulation 9 (2) of the 2009 Tariff Regulations, as amended on 21.6.2011 and 31.12.2012, 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.

(vi) In case of gas/liquid fuel based open/ combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbines after 15 year of operation from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence from the R&M expenditure to be allowed.

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

(viii) Any un-discharged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.

(ix) Expenditure on account of creation of infrastructure for supply of reliable power to rural households within a radius of five kilometers of the power station if, the generating company does not intend to meet such expenditure as part of its Corporate Social Responsibility."

11. The actual additional capital expenditure claimed by the petitioner as against the projected additional capital expenditure allowed for the period 2012-14 in order dated 9.6.2014 in Petition No.177/GT/2013 is as under:

(₹ in lakh)

	2012-13	**2013-14**
Projected additional capital expenditure allowed	46.59	23.42
Actual additional capital expenditure claimed	630.07	405.93

12. The reconciliation of actual additional capital expenditure claimed with respect to additional capital expenditure as per books of accounts duly certified by auditor for the period 2012-14 is summarized as under:

(₹ in lakh)

Sl. No.		Actual	
		2012-13	2013-14
1	**Addition/Deletions being claimed**		
a	**Additions**		
i	Capitalization against works projected and allowed for additional capitalization during 2009-14	355.65	310.68
ii	Not projected/not allowed but capitalized due to actual site requirements (being claimed for additional capitalization)	24.50	83.17
iii	IUT Transfer	356.10	0.00
	Total 1(a)	**736.25**	**393.85**
b	**Deletion**		
i	Deletion of Assets on account of replacement of assets	(-) 1.84	(-) 35.05
ii	Consumption of capital spares (deletion to be claimed)	(-) 48.14	0.00
iii	IUT deletion claimed	0.00	(-)1.24
iv	Transfer to Obsolete a/c	(-) 0.50	(-) 0.76
	Total 1 (b)	**(-) 50.47**	**(-) 37.04**
c	**Net addition to be claimed 1(c) = 1(a) – 1(b)**	**685.78**	**356.81**
2	**Additions/Deletions not claimed**		
a	**Additions**		
i	Not projected/not allowed but capitalized due to actual site requirements	1454.48	50.85
ii	Transfer to obsolete a/c	1.61	23.29
iii	On account of Adjustment / reclassification	9.16	0.00
iv	IUT Transfer	13.77	1.97
	Total 2 (a)	**1479.01**	**76.11**
b	**Deletion**		
i	Consumption of capital spares (deletion not be claimed/Under exclusion category)	(-)1302.08	(-)10.05
ii	Inter head adjustments/rectification	(-)17.34	0.00
iii	Sale of assets from obsolete	0.00	(-) 4.07
iv	Transfer to obsolete (deletion for minor assets/tools/tackles etc. which are not considered by CERC for add-cap)	(-) 23.41	(-)11.39
v	IUT Transfer	0.00	(-) 1.48
	Total 2 (b)	**(-) 1342.82**	**(-) 26.98**
c	Net capitalization (addition-deletion) kept under exclusion category 2(c) = 2(a) – 2(b)	136.19	49.12
3	Net additional capitalization (including IUT) as per Books of accounts	821.97	405.93
4	**Net Additional Capital expenditure claimed**		
i	Net additional capitalization as above **1 (c)**	**685.78**	**356.81**
	Add: Liability discharged during the year for additional capitalization **in** 2009-12	3.54	0.00
	Less: Un-discharged liability for the additional capitalization 2012-14	0.00	20.20
	Less: Assumed deletion of asset as new asset taken in replacement	59.25	4.93
	Net Additional capital expenditure claimed	**630.07**	**331.68**

***Note:** *Figures rounded of the nearest value*

13. Based on the above reconciliation, the year-wise admissibility of the additional capital expenditure under various heads is examined as stated in the subsequent paragraphs:

Additions against works already approved

14. The year-wise actual additional capital expenditure claimed as against the projected capital expenditure on works allowed by the Commission is as under:

(₹ in lakh)

2012-13	2013-14
355.65	310.68

2012-13

15. 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 is as under:

(₹ in lakh)

	Assets/works	Amount allowed on projected basis	Actual expenditure incurred/ claimed	Justification for admissibility of expenditure
1	625 KVA DG set with control panel	60.00	99.48	The Commission vide order dated 10.5.2011 in Petition No.75/2010 had allowed a total expenditure of ₹100 lakh for 3 nos. of DG set during the period 2009- 14. Hence, actual expenditure is **allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations. The gross value of the old asset for ₹11.44 lakh has been considered under "Assumed Deletions".
Total claimed			**99.48**	
Total allowed				**99.48**

Works allowed in previous years but capitalized in 2012-13

16. The details of works/assets, the projected additional capital expenditure allowed for 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	Digital Automatic Voltage Regulator (DAVR) - **02 nos.**	110.00	0.00	**Not allowed** as the assets have been purchased as capital spares. However, as one of the two DVRs purchased has been used, the deletion value of ₹42.00 lakh is considered as the value of the

				old asset under “Assumed deletions".
2	Fire tender	23.00	12.75	**Allowed** under Regulation 9(2) (iv) as the asset/work was already approved by Commission vide its order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹0.90 lakh has been considered under "Assumed deletions"
3	Mobile crane 20 MT capacity	90.00	105.15	**Allowed** under Regulation 9(2) (iv) as the asset/work was already approved by Commission vide Order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹1.06 lakh is considered under “Assumed Deletions".
4	CO_2 type fire extinguisher trolley mounted with hose pipe, 22.5 kg capacity	45.00	3.88	**Allowed** under Regulation 9(2) (iv) as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹11.44 lakh is considered under “Assumed Deletions".
5	D.C.P. type fire extinguisher, 4.5/5 kg. capacity		0.98	
6	Fire extinguisher-ABC powder-1 kg		0.32	
7	ABC type fire extinguisher 2 kg.		0.29	
8	Carbon dioxide fire extinguisher 4.5 kg		1.17	
9	Rotor Temperature indicator	15.00	4.15	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹1.23 lakh is considered under “Assumed Deletions".
Total claimed			**256.17**	
Total allowed				**128.68**

2013-14

17. The details of works/assets, the projected additional capital expenditure allowed for these works along with reasons 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	Truck (one no.)	15.00	13.70	**Allowed** under Regulation 9(2) (iv)

				of the 2009 Tariff Regulations as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹4.26 lakh is considered under “Deletions".
2	Cooling water pump	8.00	7.71	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The gross value of the old asset for ₹2.50 lakh is considered under “Assumed Deletions".
Total claimed			**21.41**	
Total allowed				**21.41**

Works allowed in previous years but capitalized in 2013-14

18. 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 is as under:

(₹ in lakh)

Sl. No	Assets/works	Amount allowed on projected basis	Actual expenditure incurred/ claimed	Justification for admissibility of expenditure
1	Fire Tender	23.00	14.27	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010.
2	Truck (2 nos.)	30.00	19.20	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The de-capitalization value of the old asset for ₹6.53 lakh is considered under regular “Deletions".
3	Motor Boat	12.00	7.65	**Allowed** under Regulation 9(2) (iv) as the asset was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The de-capitalization value of the old asset for ₹0.32 lakh is considered as under “Assumed Deletions".

4	Truck mounted 65 MT crane	300.00	232.76	**Allowed** under Regulation 9(2) (iv) as the asset was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The de-capitalization value of the old asset for ₹1.79 lakh is considered under "Assumed Deletions".
5	42 seater bus	15.00	13.85	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010. The de-capitalization value of the old asset for ₹8.23 lakh is considered under regular "Deletions".
6	PA system for Power House	4.00	1.54	**Allowed** under Regulation 9(2) (iv) of the 2009 Tariff Regulations as the asset/work was already approved by Commission vide order dated 10.5.2011 in Petition No. 75/2010.
Total claimed			**289.27**	
Total allowed				**289.27**

Capital expenditure not projected/allowed by the Commission, but incurred and claimed

19. The details of works/assets, the additional capital expenditure incurred against new works/ assets along with reasons for 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	Digital Megger	1.82	One no. Digital insulation resistance tester has been purchased for an amount of ₹1.82 lakh to replace old and obsolete megger. De-capitalization of the old asset is under process and therefore proposed deletion value of old item of ₹1.21 lakh has been considered as assumed deletion.	**Not allowed** as the assets are in the nature of "Tools & Tackles".
2	Ultimate sampling system for moisture in oil measurement	2.81	This instrument was required for online measurement of moisture in transformer oil. Previously available instrument for moisture	

			measurement for transformer oil was offline and shut down of machine was required for collection of oil sample. With the purchase of new instrument, we do not have to wait for the shutdown of machine for sampling of oil for moisture measurement and thus supply from the plant is not affected. Old instrument shall be used in the power station as per need to check the moisture content of others service transformer (located outside power house) of Power station.	
3	Current Transformer	4.47	This item is essential for switchyard of power station. The total 24 nos of CT installed in Power station. In case of any failure, these items need to be replaced with new CT immediately to continue power supply in grid. These assets not readily available in the market. Minimum spare needs to be kept in Power station. Therefore item has been purchased.	**Not allowed** as the **a**sset is in the nature of spares.
4	Oil Filtration Plant	4.13	Replacement of old and obsolete item, new item has been purchased for filtration of transformer oil. Old item has been deleted from HOA.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations**,** on replacement**,** since the asset is considered necessary for successful and efficient operation of the plant. The gross value of the replaced asset is considered as ₹1.84 lakh and de-capitalized under regular "deletions".
5	Paperless Temperature Scanner	4.57	Temperature monitoring of bearings pads is very essential parameter of a machine to avoid any tripping or generation loss. Old dial gauge meters installed at the time of commissioning power station are very old and do not give precise readings. To get correct temperature reading of bearing pads in order to avoid tripping, Paperless temperature scanner has been purchased.	**Not allowed** as the asset is in the nature of O&M expenses.

6	Air Conditioner (2 Ton)	0.84	Tanakpur Power station is surface power house and ambient temperature of generator floor is quite high. Newly installed DAVRs are Electronic card based and require additional cooling for proper functioning. In view of this, these assets has been purchased and installed near DAVR panel.	**Not allowed** as the **a**sset is minor in nature
7	Hand Held Search Light	0.28	Hand held search light has been purchased for CISF Personnel for night surveillance of Power Station, to monitor any untoward incident in and around the power station area.	
8	Hospital Equipments	1.54	The petitioner has justified that the assets purchased under this head are for regular checkup and emergency treatment of the employees.	**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 of the generating station and will facilitate in successful and efficient operation of the generating station.
9	Toilet at Central Store	1.50	Toilet has been constructed at Central store as there was no toilet was available there.	**Not allowed** as the **a**ssets are in the nature of O&M/minor assets
10	Fabrication / shed at petrol pump	1.82	Power station has a Petrol pump since commissioning and no roof was available so that shed has been provided on pump station.	
11	CCTV camera with accessories at Admin Building	0.74	Continuous surveillance is required to prevent any untoward incident in administrative building where important documents, Assets etc are available. Therefore, CCTV has been installed in administrative building for security purpose.	
Total claimed		**24.50**		
Total allowed				**5.67**

2013-14

(₹ *in lakh*)

Sl. No.	Assets/works	Actual expenditure incurred/ claimed	Justification submitted by the petitioner	Remarks for admissibility
1	Dragon light with charger - (6) nos.	0.34	Dragon light has been purchased for power house control room and different floor areas where DC supply illumination is not available in case of power failure.	**Not allowed** as the **a**sset is minor in nature
2	Digital oscilloscope , 4-channel, 50 hz with accessories	3.19	Digital oscilloscope, 4 channel, 50 hz with accessories used in DAVRs for display AC/DC waveforms, has been purchased under replacement. De-capitalization of old asset is under process.	**Not allowed** as the assets are in the nature of "Tools & Tackles".
3	PA horn speaker	0.41	Part of PA system of power house for proper functioning.	**Not allowed** as the **a**sset is minor in nature
4	Welding set, Thyristor based rectifier, 3-phase 415volt, current range upto 400 amp	0.61	Power station being located in Himalayan region on Sharda river, inflow contains huge silt particles mainly during monsoon period. Silt laden water damages /corrodes under water components such as Guide vanes, runner blades etc. During maintenance of machine, substantial welding works of underwater components is required. Considering this fact, welding machine has been purchased.	**Not allowed** as the assets are in the nature of "Tools & Tackles". Also, the capitalization of the said assets were not allowed by Commission's order dated 10.5.2011 in Petition No. 75/2010.
5	Welding set, inverter based rectifier, 3-phase 415volt, current range upto 400 amp	0.53		
6	Tata LPK 909 EX BS III - flat body tipper	10.90	One no. TATA LPK 909 EX BS III-flat body tipper has been purchased for an amount of ₹10.90 lakh to replace old and obsolete tipper. De-capitalization of old asset amounting to ₹47,415/-has been done in 2013-14.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations on replacement basis, as the asset is necessary for successful and efficient operation of the generating station. The gross value of the replaced asset is considered as ₹0.47 lakh and the old asset is de-capitalized under regular "deletions".
7	Swaraj Mazda, six seater, (dual cab), Euro-III, Turbo charged (2 nos.)	21.00	This has been purchased under replacement of TATA mobile. Cost of old asset amounting to ₹4.26 lakh may be consider for deletion.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations on

				replacement basis since the asset is considered necessary for successful and efficient operation of the plant. The gross value of the replaced asset is considered as ₹4.26 lakh and the old asset is being de-capitalized under regular "Deletions".
8	Hospital Equipments	9.85	Assets purchased under this head are for regular check-up and emergency treatment of the employees.	**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 of the generating station and will facilitate the successful and efficient operation of the generating station.
9	LAN system (OFC)	17.23	Existing LAN SYSTEM are being utilized since 2003 in the project. Presently these LAN systems are not working properly and are giving trouble in operation. Therefore, new OFC cables have been used to enhance the LAN System for better communication.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations as the asset is considered necessary for successful and efficient operation of the generating station.
10	CCTV for Dam	10.73	Tanakpur Power Station located at Indo-Nepal border which shall be open for all people. To meet out the security threat, CCTV installed at DAM site area for watching nearby movement.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations as the same is necessary for the safety of the plant which will ensure the efficient operation of the generating station.

11	Submersible pump 7.5 hp 03 ph, 415 volt, 50 Hz portable type solid /sewage handling, Kirloskar, CW 550 - (4 nos)	3.20	These pumps have been purchased for restoration of damages of civil structure work of barrage and power channel which were damaged due to unprecedented flood in 2013.	**Allowed** under Regulation 9(2)(iv) of the 2009 Tariff Regulations as the same is essential for the safety of the plant which will ensure the efficient operation of the plant. An amount of ₹2.50 lakh is considered as the de-capitalization value of the old asset under "assumed deletions".
12	Submersible pump 5 hp 03 phase, 415volt, 50 Hz portable type solid/sewage handling	0.67		
13	Control panel for 5 hp submersible pump set - (5 nos.)	0.29		
14	Submersible pump 3 hp Mody-M204T	4.24	Due to increases of water leakage in turbine top cover of machine, it has become necessary to make arrangement of additional pumps for uninterrupted generation of power.	
	Total claimed	**83.17**		
	Total allowed			**78.11**

20. The petitioner has claimed additional capital expenditure of ₹356.10 lakh on account of Inter-unit transfer in 2012-13. In this regard, the petitioner was directed the following:

'An amount of ₹356.10 lakh has been capitalized and claimed on account of inter unit transfer of assets such as land, roads & Bridges, Building and water supply system from Dhauliganga HEP to Tanakpur HEP. However, same amount of ₹356.10 lakh has been de-capitalized in the books of Dhauliganga in your petition No. 230/GT/2014 for the purpose of "Shifting of L.O at Lucknow" to Tanakpur HEP. In view of the fact that assets mentioned are not physically transferable, clarification as to how capitalization of expenditure pertaining to Liaison Office situated in Lucknow finds mention in the books of Tanakpur HEP to be submitted'.

21. In response, the petitioner vide affidavit dated 9.1.2015 has submitted as under:

'The control function of Liaison office, Lucknow was transferred to Tanakpur Power station from Dhauliganga Power station vide our office order dated 22 Nov'2012. Accordingly, assets of liaison office have been transferred'.

22. It is pertinent to mention that the generating companies use Liaison Office/Corporate office / Regional offices for various functions such as (i) operations of the existing plants (ii) construction of new plants (iii) consultancy services, etc., In our view, the capital cost incurred on the creation of these offices cannot form part of the generating station. It is pertinent to mention that in order dated 26.4.2006 in Petition No. 3/2006, the Commission had considered this issue and had disallowed the expenditure on creation of "Corporate office and other offices" in respect of the generating stations of NTPC. This decision was also followed by the Commission while determining the tariff of Nathpa

Jhakri plant of SJVNL for the period 2009-14 in order dated 20.6.2014 in Petition No. 168/GT/2013 wherein the O&M expenses (including depreciation) incurred was allowed to be recovered by way of allocation of the corporate O&M expenses to various plants under operation and for plants under construction. In line with the said decisions, the expenditure claimed by the petitioner has not been allowed for the purpose of tariff. Accordingly, the additional capital expenditure of `356.10 lakh claimed by the petitioner towards the transfer of liaison office has been disallowed.

Deletions

23. The following year-wise expenditure has been de-capitalized by the petitioner on account of new assets purchased during the year, consumption of capital spare, Inter Unit Transfer and transfer to obsolete account. The details of deletions claimed for the period 2012-14 are as under:

(₹in lakh)

	2012-13	**2013-14**
Deletion of Assets on account of replacement of assets	(-)1.84	(-) 35.05
Consumption of capital spares (deletion to be claimed)	(-) 48.14	0.00
Inter-Unit Transfer deletion to be claimed	0.00	(-)1.24
Transfer to Obsolete a/c	(-) 0.50	(-) 0.76
Total	**(-) 50.47**	**(-) 37.04**

24. It is observed that an amount of (-) ₹48.14 lakh has been de-capitalized by the petitioner in 2012-13 against consumption of capital spares i.e. Digital Automatic Voltage Regulator (DAVR). This amount represents the purchase cost of new DVR and has been de-capitalized on consumption with consequent booking to O&M expenses. The petitioner has submitted that the asset was purchased as capital spares during 2012-13 and had been consumed in the same year, thereby causing zero net effect. As such, this de-capitalization has been excluded/ignored for the purpose of the tariff as capitalization of new assets has been disallowed in para 16 of this order, considering the same to be capital spares. Other deletions claimed by the petitioner have been allowed as the old assets deleted from books of accounts do not render any useful service in the operation of the generating station. Accordingly, the deletions considered for the purpose of tariff is as under:

(₹in lakh)

	2012-13	2013-14
Deletion of Assets on account of replacement of assets	(-)1.84	(-) 35.05
Consumption of capital spares (deletion to be claimed)	0.00	0.00
IUT deletion	0.00	(-)1.24
Transfer to obsolete a/c	(-) 0.50	(-) 0.76
Total	**(-) 2.34**	**(-) 37.04**

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

25. 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 of minor assets, on account of adjustment, transfer to obsolete, etc.

(₹in lakh)

	2012-13	2013-14
Exclusions in additions (incurred, capitalized in books but not to be claimed for tariff purpose)	1479.01	76.11

26. The expenditure incurred towards procurement/replacement of minor assets and procurement of capital spares after the cut-off date is not permissible in terms of the 2009 Tariff Regulations. Accordingly, the petitioner has considered these additions under exclusion category. 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)

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

(₹In lakh)

	2012-13	2013-14
Consumption of capital spares (deletion not claimed/under exclusion category)	(-)1302.08	(-)10.05
Inter head adjustments/rectification	(-)17.34	0.00
Sale of assets from obsolete	0.00	(-) 4.07
Transfer to obsolete (deletion for minor assets/tools/tackles etc. which are not considered for additional capitalization)	(-) 23.41	(-)11.39
IUT Transfer of minor assets	0.00	(-)1.48
Total	**(-)1342.82**	**(-) 26.98**

28. 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."*

29. 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 applicable in case of the assets which are allowed by the Commission under Regulation 7, 8 and 9 of the 2009 Tariff Regulations. The petitioner has also submitted that the items proposed under deletion are not part of the capital cost and hence the costs of these assets are 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 hydro generating 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 as not in use would be taken out from capital cost.

30. 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.

32. The petitioner has excluded amounts of (-) ₹1302.08 lakh and (-) ₹10.05 lakh for the years 2012-13 and 2013-14 respectively for de-capitalization of capital spares. As regards the prayer of the petitioner for exclusion of negative entries corresponding to de-capitalization of capital spares, it is observed that the expenditure on minor assets and capital spares are not allowed to be capitalized after the cut-off date in terms of the 2009 Tariff Regulations. While the recovery of expenditure on capital spares is allowed through O&M expenses on consumption, the recovery of additional expenditure on minor assets beyond the cut-off date is neither allowed to be capitalized nor permissible under O&M expenses. Hence, the observations of the Commission in order dated 7.9.2010 is not applicable in respect of de-capitalization of spares. It is noticed from Petition Nos.187/2009 and 177/GT/2013 filed by the petitioner for the period 2006-09 and 2009-12, respectively and the present petition for the period 2012-14 that the capital spares de-capitalized in books of accounts during the period 2012-14 are the ones which were not allowed to be considered in the capital base for the purpose of tariff. In other words, positive entries arising out of their purchase were also excluded/ ignored for the purpose of tariff. Accordingly, the exclusion/ignoring of negative

entries arising out of de-capitalization of capital spares for the purpose of tariff has been allowed. 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. In view of this, the following amounts have been excluded/ ignored for the purpose of tariff as under:

(₹In lakh)

	2012-13	2013-14
Consumption of capital spares (deletion not be claimed/Under exclusion category)	(-)1302.08	(-)10.05
Inter head adjustments/rectification	(-)17.34	0.00
Sale of assets from obsolete	0.00	(-)4.07
Transfer to obsolete (deletion for minor assets/tools/tackles etc. which are not considered for additional capitalization)	(-)23.41	(-)11.39
IUT Transfer	0.00	(-)1.48
Total	**(-)1342.82**	**(-)26.98**

Assumed deletions

33. 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 original value of the old asset. However, in certain cases where de-capitalization is affected in books during the following 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
(-) 59.25	(-) 4.93

<u>2012-13</u>

34. Against the expenditure towards replacement of 2 nos. of Digital Automatic Voltage Regulator (DAVR) in 2012-13, the petitioner has de-capitalized one no. of DAVR in books of accounts. The Commission vide order dated 10.5.2011 in Petition No. 75/2010 had considered the amount of ₹42.00

lakh as the de-capitalization value of the old asset. Accordingly, the amount of (-) ₹42.00 lakh has been considered as 'assumed deletion' for second DAVR. Further, the de-capitalization claimed by the petitioner against the replacement of digital megger, rotor temperature indicator and paperless temperature scanner has not been considered, since the capitalization of these assets has not been allowed. However, the de-capitalization against replacement of DG Set Engine & Control panel, Mobile crane and Fire extinguisher claimed by the petitioner is found to be in order and is considered for the purpose of tariff.

2013-14

35. The de-capitalization claimed by the petitioner against replacement of Digital Oscilloscope has not been considered, since the capitalization of the said asset has not been allowed. However, the de-capitalization against the replacement of motor boat, crane, digital oscilloscope, cooling pump claimed by the petitioner is found to be in order and is considered for the purpose of tariff. In respect of the claim for capitalization of 42 seater Bus in 2013-14 on replacement basis, the petitioner has not furnished the replacement value of the old asset. In response to the ROP of the hearing dated 16.7.2015, the petitioner vide affidavit dated 10.8.2015 has furnished the de-capitalization value of the old asset as ₹8.23 lakh and the same has been considered. Based on the above, the assumed deletions claimed and allowed for the purpose of tariff are summarized as under:

(₹in lakh)

Sl. No.	Asset/Work against which de-capitalization claimed	Additions claimed for the asset	Assumed Deletions	
			Claimed	Allowed
2012-13				
1.	Digital Voltage Regulator	127.49 (2 nos)	(-) 42.00	(-) 42.00
2.	625 KVA DG Set Engine and control panel	99.48	(-)11.44	(-)11.44
3.	Fire Tender	12.75	(-)0.09	(-)0.09
4.	Mobile crane 20 MT Capacity	105.15	(-)1.06	(-)1.06
5.	Fire Extinguisher	6.64	(-)1.76	(-)1.76
6.	Digital Megger	1.82	(-)1.21	0.00
7.	Rotor Temperature indicator	4.15	(-)1.23	(-)1.23
8.	Paperless temperature scanner, 24 channels, LCD display, input supply 230V AC (3 no)	4.57	(-)0.46	0.00
	Total	**362.05**	**(-) 59.25**	**(-) 57.58**

2013-14				
1.	Motor Boat	7.65	(-) 0.32	(-) 0.32
2.	Truck mounted 65 MT crane	232.76	(-)1.79	(-)1.79
3.	Digital Oscilloscope , 4-channel, 50 Hz with accessories	3.19	(-) 0.32	0.00
4.	Cooling pump	8.40	(-) 2.50	(-) 2.50
5.	42 seater Bus	13.85	0.00	(-) 8.23
	Total	**252.00**	**(-) 4.93**	**(-)12.84**

Un-discharged liabilities and discharge of liabilities

36. 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	3.54	0.00
Un-discharged liabilities	0.00	20.20

37. 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:

(₹ in lakh)

	2012-13	2013-14
Additions		
Addition against work already approved by Commission	228.16	310.68
Addition not projected earlier but incurred and claimed	5.67	78.11
Total Addition	**233.83**	**388.79**
Deletions		
Deletion allowed	2.34	45.28
Assumed deletion	57.58	12.84
Total Deletion	**59.92**	**58.12**
Total Additional capital expenditure allowed before adjustment of discharge/un-discharge of liabilities	**173.91**	**330.67**
Less: Un-discharged liabilities in the admitted additional capital expenditure	0.00	20.20
Add: Liabilities discharged during the year out of the additional capital expenditure	3.54	0.00
Add: Liabilities discharged during the year (related to un-discharged liabilities as on 31.3.2009)	0.00	0.00
Additional Capital Expenditure allowed	**177.45**	**310.47**

Capital Cost

38. As stated, the capital cost of ₹40276.49 lakh as on 31.3.2012 has been allowed vide order dated 9.6.2014 in Petition No.177/GT/2013 and the same has been considered as the opening capital cost as on 1.4.2012. Accordingly, the capital cost considered for the purpose of the tariff is as under:

(₹in lakh)

	2012-13	2013-14
Opening capital cost as on 31.3.2012	40276.49	40453.94
Additional capital expenditure allowed	177.45	310.47
Closing capital cost	**40453.94**	**40764.41**

Return on Equity

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

(₹In lakh)

	2012-13	2013-14
Gross Notional Equity	10058.21	10111.45
Addition due to additional capital expenditure	53.23	93.14
Closing Equity	10111.45	10204.59
Average Equity	10084.83	10158.02
Return on Equity (Base Rate)	15.500%	15.500%
Tax rate for the year	20.008%	20.961%
Rate of Return on Equity	19.377%	19.610%
Return on Equity	**1954.14**	**1991.99**

Interest on Loan

40. The normative loan in respect of the project has already been repaid. The normative loan on account of the admitted additional capital expenditure during the respective years of the entire tariff period have been considered as fully paid, as the admitted depreciation is more than the amount of normative loan in these years. As such, the Interest on loan during the period 2009-14 is 'Nil'

Depreciation

41. The date of commercial operation of the generating station is 1.4.1993. Since the generating station has completed 12 years of operation as on 1.4.2005, the remaining depreciable value has been spread over the balance useful life of the project for the period 2009-14. Accordingly, the depreciation has been computed as under:

(₹ In lakh)

	2012-13	2013-14
Gross Block as on 31.3.2009	40276.49	40453.94
Additional capital expenditure during 2009-14	177.45	310.47
Closing gross block	40453.94	40764.41
Average gross block	40365.22	40609.17
Depreciable Value	36328.70	36548.26
Balance Useful life of the asset	16.00	15.00
Remaining Depreciable Value	15137.76	14443.95
Depreciation	**946.11**	**962.93**

O & M Expenses

42. The O & M expenses allowed in order dated 9.6.2014 in Petition No. 177/GT/2013 has been considered as under:

(₹ in lakh)

2012-13	2013-14
5472.48	5785.51

Interest on Working Capital

43. The petitioner is entitled to claim interest on working capital as per Regulation 18 of the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital are equivalent to two months' of fixed cost. In the tariff being allowed, receivables have been worked out on the basis of '2 months' fixed cost.

(ii) Maintenance spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O&M expenses for 1 month of the respective year. This has been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the tariff regulations, as amended, 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 is declared under commercial operation, whichever is later. Accordingly, SBI PLR of 12.25% as on 1.4.2009 has been considered in for working out Interest on Working Capital.

44. Accordingly, Interest on Working Capital has been calculated as under:

(₹ in lakh)

	2012-13	2013-14
Maintenance Spares	820.87	867.83
O & M Expenses	456.04	482.13
Receivables	1451.15	1515.24
Total	**2728.06**	**2865.19**
Interest on working capital @12.25%	**334.19**	**350.99**

Annual Fixed Charges

45. The annual fixed charges allowed for generating station for the period 2012-14 are summarized as under:

(₹ in lakh)

	2012-13	2013-14
Return on Equity	1954.14	1991.99
Interest on Loan	0.00	0.00
Depreciation	946.11	962.93
Interest on Working Capital	334.19	350.99
O & M Expenses	5472.48	5785.51
Total	**8706.92**	**9091.41**

46. The difference between the annual fixed charges 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

47. 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
Return on Equity	2032.42	2034.54	2084.60	2133.91	2134.34
Interest on Loan	0.00	0.00	3.45	3.45	0.00
Depreciation	1007.33	1010.03	1074.37	1189.99	1190.94
Interest on Working Capital	462.28	488.46	518.97	552.41	583.98
O & M Expenses	7101.62	7573.45	8076.63	8613.24	9185.51
Annual Fixed Charges	**10603.65**	**11106.48**	**11758.02**	**12493.00**	**13094.77**

48. In response to the directions of the Commission the petitioner has submitted additional information and has served copies of the same on the respondents. The respondents, UPPCL and BRPL have filed replies in the matter and the petitioner has filed rejoinder to the said reply. Based on the submissions and the documents available on record, we proceed to determine the tariff of the generating station for the period 2014-19 as stated in the subsequent paragraphs.

Capital Cost

49. 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*

50. The closing capital cost considered by the Commission as on 31.3.2014 in this order is ₹40764.41 lakh. This has been considered as the opening capital cost as on 1.4.2014 for computation of tariff for the period 2014-19.

Actual/ Projected Additional Capital Expenditure

51. 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.

52. 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 tem 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.”

53. The year-wise breakup of the projected additional capital expenditure claimed by the petitioner is as under:

(₹ *in lakh*)

	2014-15	2015-16	2016-17	2017-18	2018-19
Projected additional capital expenditure on gross basis	15.00	51.00	2184.00	18.00	0.00
De-capitalization	2.84	11.00	522.36	3.30	0.00
Net projected additional capital expenditure	**12.16**	**40.00**	**1661.64**	**14.71**	**0.00**

54. Before proceeding, we examine some of the general issues raised by the respondent, UPPCL and the respondent, BRPL as regards the claim for additional capitalization of assets/items by the petitioner during the period 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, UPPCL has mainly submitted that the claim of the petitioner for purchase of the assets/items for 2014-19 may be charged against the O&M expenses allowed to the generating station. The respondent, BRPL has submitted that the claim of the petitioner for projected additional capital expenditure 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.

55. In response to the submissions of respondent UPPCL, the petitioner has clarified that the projected additional expenditure claimed are of capital nature and hence cannot be charged to O&M expenses. The petitioner has further stated that the expenditures have been claimed strictly as per Regulation 14(3)(viii) of 2014 Tariff Regulations as the same are required for successful & efficient operation of the generating station and all assets proposed for capitalization are of capital nature and therefore may be allowed by the Commission. In response to the submissions of the 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 shall be an additional burden on the beneficiaries. The petitioner has clarified that replacement is proposed after the completion of estimated life of equipment with justifications. It has further pointed out that Regulation 14(3)(vii) is not applicable for these items since they are being replaced on account of expiry of their useful life.

56. 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.

57. 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 3 no. Unit Auxiliary Transformers (UATs).	15.00	Existing, three nos.800KVA UATs are conventional outdoor type oil filled transformers. These transformers are 1989 manufactured & are in operation since commissioning of Power Station. Since the existing transformers have completed their useful life i.e. 25 years, they require replacement.	**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 ₹2.84 lakh.	**12.16** (15.00 - 2.84)
	Total amount claimed	**15.00**			
	Total amount allowed (after de-capitalization)				**12.16**

2015-16

(₹ in lakh)

Sl. No.	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount Allowed
1	Purchase of 3 no. Unit Auxiliary Transformers (UATs).	16.00	Existing, three nos. 800 KVA UATs are conventional outdoor type oil filled transformers. These transformers are 1989 manufactured & are in operation since commissioning of Power Station. Since existing transformers have completed their useful life i.e. 25 years, they require replacement.	**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 ₹2.84 lakh.	**13.16** (16.00-2.84)
2	Telephone Exchange	35.00	The existing EPABX is obsolete and has completed its useful life, required replacement.	**Allowed** under Regulation 14(3)(viii), since the asset is considered necessary for efficient operation of the generating	**26.84** (35.00-8.16)

				station. The gross value of old asset is considered as ₹8.16 lakh.	
Total amount claimed		**51.00**			
Total amount allowed (after de-capitalization)					**40.00**

<u>2016-17</u>

(₹ in lakh)

Sl. No.	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount Allowed
1	Purchase of 3 no. Unit Auxiliary Transformers (UATs).	17.00	Existing, three nos.800KVA UATs are conventional outdoor type oil filled transformers. These transformers are 1989 manufactured & are in operation since commissioning of Power Station. Since existing transformers have completed their useful life i.e. 25 years, they require replacement.	**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 ₹2.84 lakh.	**14.16** (17.00-2.84)
2	Purchase of Station Service Transformer (SST) (one no)	17.00	Existing, two nos.1000KVA, conventional outdoor type, oil filled transformers have been installed. These transformers are 1989 manufactured & are in operation since commissioning of Power Station. Since existing transformers have completed their useful life, they require replacement.	**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 ₹4.29 lakh.	**12.71** (17.00-4.29)
3	Purchase of High Pressure Reciprocating Electric Air Compressor (approx. 800 cfm & 275 kW, with pressure upto 40 bar) along with separate vertical air receiver Tank	115.00	**Existing System:** There are 48 nos hoppers and 4 nos silt flushing tunnels for desilting arrangement which are normally choked due to siltation. Presently De-choking of Hoppers are carried out through Hydro Suction pipe line & movable type low capacity Diesel compressor which have not proven very effective system and ultimately all the hoppers are normally choked after certain period. As per past experience de-choking of hoppers are carried out through inviting dredging contract or desiltation through small Tipper/Trailer by making ramp during closure of power	The new de-silting system is being envisaged after 22 years of plant operation to increase the efficiency/ availability and for reducing the O&M expenditure by avoiding dredging contract and by way of reduced repair and maintenance cost. However, in view of the fact that the Target Availability norm and normative O&M expenses for the tariff period 2014-19 have been finalized without	0.00
4	Purchase of Submersible agitator Dredge/slurry Pump having approx. 150 HP working with minimum 22 meter head and minimum	115.00			0.00

	discharge 700 cum/hr.		channel. **Necessity of Incurring expenditure:-** Choking of Hoppers & SFT results flow of Heavy silt contents through machine which damages Runner Blade profile, trunion seal, shaft sleeve drum, shaft seal etc including choking of coolers etc resulting lowering the plant efficiency /availability and incurring additional cost in repair of the unit. Further, accumulation of silt lowers the capacity of power channel & loss of head resulting generation loss even in peak season due to low intake in power channel. Further, barrage closure attracts generation loss along with desiltation through small Tipper/Trailer by making ramp during closure of power channel may also have risk of damaging PCC lining of channel. Therefore, it is proposed to establish a permanent compressor room by procuring High capacity Electric Compressor with air receiver tank along with procurement of high capacity (high head & flow) submersible agitator Dredging pump (to be installed in a Barge) for desilting & agitating the silt by pump and cleaning of hopper by high pressurized Air. This will result throughout efficient working of Silt Ejector basin enhancing the efficiency & performance of power station as detailed above.	the new system in place, the entire benefit of the new system will go to the petitioner. The petitioner shall carry out the cost benefit analysis for incurring the expenditure on new system (in terms of the reduced O&M expenses) and incentive on account of increased availability. In view of this, the expenditure has **not been allowed** for the purpose of tariff.	
5	Purchase of 1 Set of Stoplog Gates for Barrage	120.00	**Existing System:** There are only 2 set of Stoplog gates for maintenance of 22 nos Barrage Gates. Necessity of Incurring Expenditure: 2 Set of stoplog gates are not sufficient to cater the maintenance works during lean season for all gates. Since the Barrage Gates have installed 22 years	**Not allowed** as the petitioner has not clearly established the time requirements for maintenance of barrage gates duly supported with facts and figures pertaining to the loss of generation due to the	**0.00**

			ago and due to passage of time, the condition of Barrage gates are badly deteriorating and requires frequent R&M for smooth operation. Therefore, additional 1 Set of Stoplog gate is necessarily required so that maintenance of three gates may be taken up simultaneously to complete R&M of all gates during every lean season. **Impact on Efficiency/ Performance:** Efficient & water leakage proof operation of barrage gate enhance the generation capacity resulting efficient performance of power station.	existing system. The petitioner has also not justified the expenditure in terms of the likely increase in generation and as to how the benefit of increased generation would accrue to the beneficiaries, specially keeping in view that the norms specified under the 2014 Tariff Regulations applicable for the period 2014-19 do not take into account the new system and also do not capture the benefits of the new system.	
6	Complete Runner assembly	1800.00	In Unit-I, old hub with new blades was installed in 2008-09. There is oil leakage problem from the runner during its operation and at present, both the hub and the blades are worn out and needs replacement as it is beyond economical repair. Replacement is to avoid water/pressure loss and hence energy loss during operation for good performance and efficiency of the unit.	**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 ₹515.23 lakh.	**1284.77** (1800.00-515.23)
Total amount claimed		**2184.00**			
Total amount allowed (after de-capitalization)					**1311.64**

2017-18

(₹ in lakh)

Sl. No.	Assets/ Works	Amount Claimed	Justification submitted by the petitioner	Remarks on admissibility	Amount allowed
1	Purchase of Station Service Transformer (SST) (One no.).	18.00	Existing, two nos.1000 KVA, conventional outdoor type, oil filled transformers have been installed. These transformers are 1989 manufactured & are in operation since commissioning of Power Station. Since existing transformers have completed their useful life, they require replacement.	**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 ₹3.30	**14.70** (18.00-3.30)

				lakh.	
Total amount claimed		**18.00**			**14.70**
Total amount allowed (after de-capitalization)					

2018-19

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

Additional capital expenditure allowed for 2014-19

59. 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
Additional capital expenditure allowed	15.00	51.00	2184.00	18.00	-
De-capitalization	2.84	11.00	522.36	3.30	-
Net Additional Capital expenditure allowed	**12.16**	**40.00**	**1311.64**	**14.70**	**-**

Capital Cost for 2014-19

60. As stated, the closing capital cost as on 31.3.2014 is ₹40764.41 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	40764.41	40776.57	40816.57	42128.21	42142.91
Additional Capital Expenditure allowed	12.16	40.00	1311.64	14.70	0.00
Capital Cost as on 31st March of the year	**40776.57**	**40816.57**	**42128.21**	**42142.91**	**42142.91**

Debt-Equity

61. 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."

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

Return on Equity

63. 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.*

64. Regulation 25 of the 2014 Tariff Regulations provides as under:

> ***"Tax on Return on Equity***
> *(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".*
>
> *(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:*

Rate of pre-tax return on equity = Base rate / (1-t)

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis."

65. 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	10204.59	10208.24	10220.24	10613.73	10618.14
Addition due to additional capital expenditure	3.65	12.00	393.49	4.41	0.00
Closing Equity	10208.24	10220.24	10613.73	10618.14	10618.14
Average Equity	10206.41	10214.24	10416.98	10615.94	10618.14
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity	**2001.48**	**2003.01**	**2042.77**	**2081.78**	**2082.22**

66. The petitioner is however directed to submit the effective tax rates along with the tax Audit report for the period 2015-19 at the time of revision of tariff based on truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

Interest on Loan

67. 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-capitalization of such asset.

(4) Notwithstanding any moratorium period availed by the generating company orthe 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."

68. The normative loan for the project has already been repaid. The normative loan on account of the admitted additional capital expenditure during the respective years of the tariff period have also been considered as fully paid, as the admitted depreciation is more than the amount of normative loan in these years. As such, Interest on loan for the period 2014-19 is worked out as 'Nil'.

Depreciation

69. 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 on1.4.2014 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) along with 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."

70. The COD of the generating station is 1.4.1983. As the generating station has completed 12 years of operation as on 1.4.2005, the remaining depreciable value has been spread over the balance useful life of the project. Accordingly, depreciation has been computed as follows:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block as on 31.3.2014	40764.41	40776.57	40816.57	42128.21	42142.91
Additional capital expenditure during 2014-19	12.16	40.00	1311.64	14.70	0.00
Closing gross block	40776.57	40816.57	42128.21	42142.91	42142.91
Average gross block	40770.49	40796.57	41472.39	42135.56	42142.91
Depreciable value	36693.44	36716.91	37325.15	37922.00	37928.62
Balance useful life of the asset	14.00	13.00	12.00	11.00	10.00
Remaining depreciable value	13659.04	12708.54	12345.93	12232.49	11129.16
Depreciation	**975.65**	**977.58**	**1028.83**	**1112.04**	**1112.92**

O&M Expenses

71. 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
7101.62	7573.45	8076.63	8613.24	9185.51

Interest on working capital

72. 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."

73. Accordingly, the receivables considering two months of fixed cost are worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1756.60	1840.17	1944.18	2059.40	2160.27

74. Maintenance spares @ 15% of operation and maintenance expenses are worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1065.24	1136.02	1211.49	1291.99	1377.83

75. O&M Expenses for one month are allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
591.80	631.12	673.05	717.77	765.46

Rate of interest on working capital

76. Clause (3) of Regulation 28 of 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."

77. 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.

Interest on Working Capital

78. 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	1065.24	1136.02	1211.49	1291.99	1377.83
O & M expenses	591.80	631.12	673.05	717.77	765.46
Receivables	1756.60	1840.17	1944.18	2059.40	2160.27
Total	3413.64	3607.31	3828.73	4069.16	4303.56
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**460.84**	**486.99**	**516.88**	**549.34**	**580.98**

79. Accordingly, the annual fixed charges approved for the generating station for the period 2014-2019 is as under**:**

(₹ In lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	2001.48	2003.01	2042.77	2081.78	2082.22
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	975.65	977.58	1028.83	1112.04	1112.92
Interest on Working Capital	460.84	486.99	516.88	549.34	580.98
O & M Expenses	7101.62	7573.45	8076.63	8613.24	9185.51
Annual Fixed Charges	**10539.59**	**11041.03**	**11665.11**	**12356.41**	**12961.62**

Normative Annual Plant Availability Factor

80. 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 55% has been considered for this generating station.

Design Energy

81. The Commission in its order dated 10.5.2011 in Petition No.75/2010 had approved the annual Design Energy (DE) of 452.19 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 (MUs)**
April	19.71
May	28.94
June	42.29
July	66.59
August	66.59
September	64.44
October	51.92
November	31.12
December	24.13
January	21.25
February	17.12
March	18.09
Total	**452.19**

Application Fee and Publication Expenses

82. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19. The petitioner has deposited tariff filing fees of ₹414480/- for the period 2014-15 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The petitioner vide affidavit dated 14.11.2014 has submitted that it has incurred ₹377821/- as charges towards publication of the said tariff petition in the newspapers. 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 recovered *pro rata* after deposit of the same and production of documentary proof.

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

84. Petition No. 226/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**