CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

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: 23.02.2016

In the matter of

<u>Petition No. 453/GT/2014</u>

Revision of annual fixed charges for the period 1.4.2009 to 31.3.2014 based on actual capital expenditure incurred during the years 2009-10 to 2013-14 in respect of Agartala Gas Turbine Power Project (4 x 21MW) of North Eastern Electric Power Corporation Limited.

And

In the matter of

<u>Petition No. 44/GT/2015</u>

Approval of tariff of Agartala Gas Turbine Power Project (4 x 21 MW) of North Eastern Electric Power Corporation Limited for the period from 1.4.2014 to 31.3.2019

And

In the matter of

North Eastern Electric Power Corporation Ltd
Brookland Compound
Lower New Colony
Shillong-793 003 **...Petitioner**

Vs

1. Assam Power Distribution Company Ltd.
"Bijulee Bhawan", Paltanbazar
Guwahati-781 001

2. Meghalaya Power Distribution Corporation Ltd.
Meter Factory Area, Short Round Road
Integrated Office Complex
Shillong-793 001

3. Tripura State Electricity Corporation Ltd.
Bidyut Bhavan, North Banamalipur
Agartala-799 001

4. Power and Electricity Department
Govt. of Mizoram
P&E Office Complex, Electric Veng, Aizwal-796 001

5. Manipur State Power Distribution Company Ltd
Electrical Complex, Khawal Bazar
Keishampat, Imphal-795 001

6. Department of Power
Govt. of Arunachal Pradesh
Vidyut Bhawan
Itanagar-791 111

7. Department of Power
Govt. of Nagaland
Kohima-797 001

8. North Eastern Regional Power Committee
Meghalaya State Housing Finance Co-operative
NERPC complex, Dong Parmaw
Lapalang, Shillong-793006

9. North Eastern Regional Load Despatch Centre
Dongtieh, Lower Nongrah
Lapalang
Shillong-793 006 **…Respondents**

Parties present:

Shri Paresh Ch Barman, NEEPCO
Shri Rana Bose, NEEPCO
Ms. Elizabeth Pyrbot, NEEPCO
Shri Devapriya Choudhary, NEEPCO
Shri K.Goswami, APDCL

ORDER

Petition No. 453/GT/2014 has been filed by the petitioner for revision of tariff with respect to capital expenditure including additional capital expenditure incurred during the years 2009-10 to 2013-14 in respect of Agartala Gas Turbine Power Project (4X21 MW) (hereinafter referred to as "the generating station") after truing-up exercise in terms of Regulation 6(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

2. During the pendency of the above petition, the petitioner has filed Petition No. 44/GT/2015 for approval of tariff in respect of the generating station for the period 2014-19 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

3. Agartala Gas Turbine Power Project (AGTPP) is a Gas Based Power Plant operating in open cycle and comprises of four Gas Turbines of 21 MW capacity each. The dates of commercial operation of the individual units of the generation station are as under:

Unit No.	Date of Commercial Operation	Capacity
GT-1	1.4.1998	21 MW
GT-2	1.4.1998	21 MW
GT-3	1.4.1998	21 MW
GT-4	1.8.1998	21 MW
Generation Station	**1.8.1998**	**84 MW**

4. The tariff of the generating station for the period 2009-14 was determined by the Commission vide order dated 11.3.2011 in Petition No.299/2009 based on capital cost of ₹33607.86 lakh as on 1.4.2009. The annual fixed charges approved by the Commission vide order dated 11.3.2011 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	2886.69	2886.69	2887.29	2888.42	2888.94
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	1714.87	1714.87	470.93	472.63	473.50
Interest on Working Capital	462.57	473.08	458.76	470.05	482.44
O&M Expenses	2667.00	2819.88	2981.16	3151.68	3331.44
Total Annual Fixed Charges	**7731.13**	**7894.52**	**6798.14**	**6982.78**	**7176.33**

<u>Petition No. 453/GT/2014</u>

5. 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."

6. The revision of annual fixed charges claimed by the petitioner in this petition for the period 2009-14 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1714.87	1714.93	470.48	480.50	521.28
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3083.77	3196.79	3203.66	3220.92	3278.47
Interest on Working Capital	466.67	479.54	471.12	484.12	498.53
O&M Expenses	2667.00	2819.88	2981.16	3151.68	3331.44
Annual Fixed Charges	**7932.31**	**8211.14**	**7126.42**	**7337.22**	**7629.72**

7. In terms of the directions of the Commission vide ROP of the hearing dated 7.4.2015 in Petition No.453/GT/2014, the petitioner has submitted the additional information vide affidavit dated 10.6.2015. Both the petitions were heard on 16.7.2015 and the Commission after directing the

petitioner to submit the additional information/documents in Petition No.44/GT/2015 reserved its orders in the said petitions. In compliance with the above directions, the petitioner vide affidavit dated 6.8.2015 has submitted the additional information and has also served copies of the additional information on the respondents. Reply has been filed by the respondent No.1, APDCL and the petitioner has filed its rejoinder to the same.

8. The respondent No.1, APDCL in its reply affidavit dated 7.1.2015 has submitted that the items and year-wise expenditure claimed by the petitioner for the period 2009-14 in this petition are completely different from those approved by the Commission in order dated 11.3.2011 in Petition No. 299/2009. It has also submitted that the petitioner should have approached the Commission on this count as per proviso to Regulation 6 (1) of the 2009 Tariff Regulations prior to 2013-14. Accordingly, the respondent has submitted that any upward claim over and above the additional capital expenditure already approved by the Commission is not admissible. The respondent has also submitted that tariff may be determined after prudence check of the submissions of the petitioner and within the provision of the regulations.

9. The petitioner in its rejoinder affidavit dated 24.2.2015 has clarified that the projection for capital expenditure to be incurred during the period 2009-14 in Petition No.299/2009 had been made based on estimation/work planning before commencement of the said period and claimed accordingly in terms of Regulation 9(2) of the 2009 Tariff Regulations. It has also submitted that based on actual requirements/site conditions as well as applicable rates/prices for such works during execution, works and values thereof may vary with that of the projection made/allowed by the Commission. The petitioner has further submitted that in addition to the above, few additional works have been executed for maintaining plant efficiency/compliance with MOP, GOI directives and has been claimed within the provisions of Regulation 9(2). The petitioner has stated that the truing-up petition has been filed in compliance with the first provision of Regulation 6(1) and Regulation 6(2) & 6(3) have no relevancy with non-compliance of the second proviso of Regulation 6(1) as submitted by the said respondent. Accordingly, the petitioner has submitted that the expenditure actually incurred may be allowed subject to prudence check by the Commission.

10. We have examined the matter. The 2009 Tariff Regulations envisages determination of tariff of existing projects based on admitted capital cost upto 31.3.2009 and projected additional capital expenditure during the tariff period 2009-14. One mid-term truing-up and final truing-up of the capital expenditure, with suitable provision for payment of interest on the excess recovery or shortfall in recovery, has been provided to balance the interest of the generating companies as well as the beneficiaries. In terms of the proviso to Regulation 6(1) of the 2009 Tariff Regulations, the generating company has the discretion to approach the Commission one more time for truing up during the tariff period. In terms of Regulation 6 (1), the Commission shall carry out truing-up exercise along with the tariff petition filed for the next period with respect to the capital expenditure including additional capital expenditure incurred upto 31.3.2014 as admitted by the Commission after prudence check at the time of truing-up. The petitioner instead of approaching for a mid-term truing-up has opted for truing-up of expenditure at the end of the tariff period. With the provision for truing-up and the adjustment of excess recovery or shortfall as a result of such truing up at SBI PLR rate, the concerns of the respondent, APDCL are duly taken care of. Thus, the objection of the respondent is disposed of as above. We now proceed to revise the tariff of the generating station for the period 2009-14 on prudence check, based on the submissions of the parties in the subsequent paragraphs.

Capital cost

11. The last proviso of Clause 2 of Regulation 7 of the 2009 Regulations provides as under:

> *"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 and the additional capital expenditure to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff."*

12. The Commission vide its order dated 11.3.2011 in Petition No. 299/2009 had considered the opening capital cost of ₹33607.86 lakh as on 1.4.2009. The same has been considered for revision of tariff of the generating station for the period 2009-14.

Additional Capital Expenditure

13. Clause (2) of Regulation 9 of the 2009 provides as under:

> *"9. Additional Capitalization.*
>
> *(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:

(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-materialization 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."

14. The break-up of the additional capital expenditure allowed vide order dated 11.3.2011 in Petition No. 299/2009 is as follows:

(₹in lakh)

Sl No	**Head of Works/ Equipment**	**2009-10 (Actual)**	**2010-11 (Actual)**	**2011-12 (Actual)**	**2012-13 (Projected)**	**2013-14 (Projected)**	**Total**
A	**Additional Capital Expenditure**						
1	Extension of Administration Building	0.00	0.00	0.00	20.00	0.00	20.00
2	Construction of periphery road around Plant complex, along with the boundary wall	0.00	0.00	23.00	0.00	0.00	23.00
	Total **(A) (1+2)**	**0.00**	**0.00**	**23.00**	**20.00**	**0.00**	**43.00**

15. The detailed break-up of the actual additional capital expenditure claimed by the petitioner vide affidavit dated 19.9.2014 is as under:

(₹in lakh)

Sl No.	Head of Works/ Equipment	2009-10	2010-11	2011-12	2012-13	2013-14	Total
A	**Additional Capital Expenditure**						
1	Extension of Administration Building	0.00	0.00	0.00	15.08	0.00	15.08
2	Construction of periphery road around Plant complex, along with the boundary wall	0.00	0.00	23.14	0.00	0.00	23.14
A1	**Total (1+2)**	**0.00**	**0.00**	**23.14**	**15.08**	**0.00**	**38.22**
B	**New Claims**						
3	Completion of balance works of fire fighting system of the plant	0.00	0.00	92.13	0.00	0.00	92.13
4	Tool & Plants (Turbine oil cleaning machine)	0.00	2.22	2.25	0.00	8.67	13.14
5	Water supply and drainage	0.00	0.00	8.54	0.00	0.00	8.54
6	Mark V control panel	0.00	0.00	0.00	766.55	0.00	766.55
7	Furniture	0.00	0.00	0.00	5.22	0.00	5.22
8	VSAT Equipment & Audio visual (Video conference)	0.00	0.00	0.00	22.16	0.00	22.16
9	EMCO make generator transformer	0.00	0.00	0.00	0.00	153.15	153.15
10	Transportation of main plant Equipment	0.00	0.00	0.00	0.00	10.05	10.05
B1	**Total New claims (3+4+5+6+7+8+9+10)**	**0.00**	**2.22**	**102.92**	**793.93**	**171.87**	**1070.94**
C	**Grand Total (A+B)**	**0.00**	**2.22**	**126.06**	**809.01**	**171.87**	**1109.16**
D	**De-capitalization**						
	De-capitalization of old assets replaced by the new assets						
1	Gas turbine (Mark Iv Control panel of Units 1&2)	0.00	0.00	0.00	(-) 341.13	0.00	**0.00**
D1	**TOTAL**	**0.00**	**0.00**	**0.00**	**(-) 341.13**	**0.00**	**0.00**
E	Net Additional Capital Expenditure	0.00	2.22	126.06	467.88	171.87	768.03
F	Exclusions	24.14	21.47	18.31	16.11	50.97	131.00
G	**Additional Capital Expenditure as per books of accounts (E+F)**	**24.14**	**23.69**	**144.37**	**483.99**	**222.85**	**899.00**

16. It is observed from the above that as against the additional capital expenditure allowed by Commission's order dated 11.3.2011 in Petition No. 299/2009, there is an increase of ₹1066.16 lakh (1109.16-43.00) in the actual additional capital expenditure claimed by the petitioner in this petition. The reasons for the increase in the claim are on account of the following:

(i) New claims of ₹1070.94 lakh which comprise of the actual capital expenditure of ₹13.14 lakh for T&P (₹2.22 lakh in 2010-11, ₹2.25 lakh in 2011-12 and ₹8.67 lakh in 2013-14), actual additional capital expenditure of ₹92.13 lakh for completion of balance works of fire fighting system of the plant in 2011-12, actual additional capital expenditure of ₹8.54 lakh in 2011-12 for water supply and drainage, actual additional capital expenditure of ₹766.55 lakh in 2012-13 for Mark-V control panel, actual additional capital expenditure of ₹5.22 lakh in 2012-13 for furniture, actual additional capital expenditure of ₹22.16 lakh in 2012-13 for VSAT Equipment & Audio visual (Video conference), actual additional capital expenditure of ₹153.15 lakh in 2013-14 for Generator Transformer and actual additional capital expenditure of ₹10.05 lakh in 2013-14 for Transportation of Main Plant Equipment.

(ii) Reduction of ₹4.92 lakh in the claim for extension of administrative building

(iii) Increase of ₹0.14 lakh in the claim for construction of periphery road around plant.

Extension of Administration Building

17. The petitioner has claimed actual additional capital expenditure of ₹15.08 lakh in 2012-13 towards Extension of Administration building as against the expenditure of ₹20.00 lakh in 2012-13 allowed by Commission's order dated 11.3.2011 in Petition No. 299/2009. Considering the fact that the actual additional capital expenditure incurred is less than the projected additional capital expenditure allowed vide order dated 11.3.2011, the actual additional capital expenditure of ₹15.08 lakh is allowed under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

Construction of Periphery road

18. The petitioner has claimed actual additional capital expenditure of ₹23.14 lakh in 2011-12 towards Construction of periphery road around plant complex as against the expenditure of ₹23.00 lakh allowed in order dated 11.3.2011 in Petition No. 299/2009. Considering the fact that the said expenditure is based on the report of the Ministry of Home Affairs, GOI dated 4.5.2009, wherein fresh security measures, including the repair of patrolling tracks for security personnel to carry out regular patrolling for adequate security arrangements and protection of generating station have been recommended, the actual additional capital expenditure of ₹23.14 lakh is allowed in terms of Regulation 9(2) (ii) of the 2009 Tariff Regulations.

Fire fighting system

19. The petitioner, in terms of the liberty granted by the Commission in order dated 11.3.2011 in Petition No.299/2009 has claimed actual additional capital expenditure of ₹92.13 lakh in 2011-12 towards completion of balance work of fire fighting system. The Commission in its order dated 11.3.2011 while rejecting the claim of the petitioner in the petition has observed as under:

“Not allowed in view of the submissions of petitioner. The petitioner was directed to furnish the reasons for non-completion of the balance work in respect of fire fighting system even after 10 years of commercial operation of the generating station with chronological events. The petitioner vide its letter dated 27.1.2011 has furnished in detail the status of the fire fighting system as on 19.6.2010. It has been submitted that the work could not be completed since the contractor had left the job mid-way and both parties have raised certain issues before the Hon’ble High Court of Guwahati and as per the directions of the Hon’ble Court, the matter is under ‘arbitration’. It was only under these circumstances, the fire fighting system could be partially completed. It has also been submitted that in order to make the system fully operational the petitioner would invite tender after completion of ‘arbitration’. In consideration of the time taken for the completion of arbitration and the nature of balance work left, it has been submitted that the actual expenditure could be higher than the projected claim of ₹70.00 lakh. However, the petitioner is at liberty to claim the above expenditure at the time of truing up, if so advised, which will be considered in accordance with law.”

20. The petitioner has submitted that the work has been executed for protection of the plant, which in turn is required for maintaining the efficiency of the generating station. In line with the liberty granted by Commission in order dated 11.3.2011and in consideration of the submissions of the petitioner that fire fighting system is essential for safety of plant and personnel, the additional capital expenditure of ₹92.13 lakh is allowed under Regulation 9(2) (vii) of 2009 Tariff Regulations.

New Claims

Tool & Plants

21. The petitioner has claimed actual additional capital expenditure of ₹13.14 lakh towards Tool & Plants (₹2.22 lakh in 2010-11, ₹2.25 lakh in 2011-12 and ₹8.67 lakh in 2013-14). As capitalization of “tools and tackles” after the cut-off-date is not permissible in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations, the claim of the petitioner is not allowed.

Water Supply and drainage

22. The petitioner has claimed actual additional capital expenditure of ₹8.54 lakh in 2010-11 towards Borewell to facilitate DM water for service plant. The petitioner vide ROP of the hearing dated 7.4.2015 was directed to furnish the details as to how the requirement of water for DM plant, service plant has been catered since inception of the plant and need for bore well to facilitate DM water for service plant. In response, the petitioner vide affidavit dated 15.6.2015 has submitted that the expenditure was inadvertently mentioned as relating to DM Plant and the said expenditure amounting to ₹8.54 lakh was capitalized in 2011-12 under the head Water supply & drainage. It has also submitted that the purpose for execution of the said works is for supply of water in office and colony complex, which has been executed through the Rig Division of the Public Health Engineering, Govt. of

Tripura. It is however noticed that the petitioner has not furnished details as to how the above requirement of water was being met since inception. In view of non-submission of the relevant information, we do not allow the said expenditure claimed by the petitioner.

Mark V Control panel

23. The petitioner has claimed actual additional capital expenditure of ₹766.55 lakh towards Mark V control panel in 2012-13 as the present Mark IV system is obsolete and spare cannot be sourced from the OEM. The claim of the petitioner is found justified and is allowed under Regulation 9(2)(vi) of the 2009 Tariff Regulations.

Furniture

24. The petitioner has claimed actual additional capital expenditure of ₹5.22 lakh towards Furniture in 2012-13. As the expenditure is in the nature of minor assets, the claim has not been allowed.

VSAT Equipment & Audio visual (Video conference)

25. The petitioner has claimed actual additional capital expenditure of ₹22.16 lakh towards VSAT equipment and audio visual (video conferencing) in 2012-13. As the expenditure is in the nature of minor assets, the claim has not been allowed.

EMCO make Generator Transformer

26. The petitioner has claimed actual additional capital expenditure of ₹153.15 lakh towards EMCO make Generator Transformer in 2013-14 as spare requirement. Since there is no provision under the 2009 Tariff Regulations, to consider spares after the cut-off date of the generating station, the expenditure on this count is not allowed.

Transportation of Main plant equipment

27. The petitioner has claimed actual additional capital expenditure of ₹10.05 lakh towards transportation of main plant equipment in 2013-14. The Commission vide ROP of hearing dated 7.4.2015 directed the petitioner to furnish the details of equipment for which transportation charges are sought and in response, the petitioner vide affidavit dated 15.6.2015 has submitted as under:

> *"This relates with claim for extra works carried out by M/s Marathon Electric Power Corporation Ltd. (formally known as ALSTOM Ltd.) during the execution of supply and installation of 4 X 21 MW Gas Turbines for the purpose of setting up a Gas based power plant in AGTPP, Agartala. The said case was under arbitration and payment was made as per the Arbitration award dated 30.11.2013 (Copy as Annexure V)."*

28. In consideration of the submissions of the petitioner and since the expenditure incurred is in terms of the Arbitration award dated 30.11.2013, the same has been allowed under Regulation 9(2) (i) of the 2009 Tariff Regulations.

Reconciliation of Actual additional capital expenditure

29. In response to the directions of the Commission vide ROP of the hearing dated 7.4.2015, the petitioner vide affidavit dated 10.6.2015 has submitted the audited reconciliation statement of the actual additional capital expenditure for the period 2009-14. The reconciliation statement of actual additional capital expenditure for the period 2009-14 duly audited with the books of accounts is summarized as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Opening Gross Block as on 1st April of year **(A)**	34128.50	34152.64	34176.32	34320.70	34804.69
Additions during the years **(B)**	23.70	23.69	144.37	828.26	222.85
Adjustments **(C)**	0.44	0.00	0.00	(-) 344.27	0.00
Closing Gross block as per books of accounts [D= (A+B+C)]	**34152.64**	**34176.32**	**34320.70**	**34804.69**	**35027.54**

<u>Exclusions</u>

30. We consider the exclusions for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 under different heads. The summary of exclusions claimed as per books of accounts is discussed as under:

(₹ in lakh)

		2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
(i)	Capital Spares/Minor assets	12.30	21.47	7.53	19.25	12.57
(ii)	Other Capital works	11.39	0.00	10.78	0.00	38.40
(iii)	Inter Project transfer	1.51	0.00	0.00	0.00	0.00
iii)	Transfer to other office/unit	0.00	0.00	0.00	(-) 3.14	0.00
(iv)	De-capitalization of old assets without any replacement by new assets	(-) 1.07	0.00	0.00	0.00	0.00
	Total Exclusions	**24.13**	**21.47**	**18.31**	**16.11**	**50.97**

Capital Spares/ Minor Assets

31. The petitioner has excluded amounts of ₹12.30 lakh in 2009-10, ₹21.47 lakh in 2010-11, ₹7.53 lakh in 2011-12, ₹19.25 lakh in 2012-13 and ₹12.57 lakh in 2013-14 for Capital spares/Minor assets. In justification of the same, the petitioner has submitted that these items are minor in nature and are not claimed for the purpose of tariff and hence do not form part of the capital cost. In view of this, the exclusion of the said amounts is in order and is allowed.

Other capital works

32. The petitioner has excluded an amount of ₹11.39 lakh in 2009-10 (for Vehicle shed and bore-well) ₹10.78 lakh (for sitting room) in 2011-12 and ₹38.40 lakh in 2013-14 (for LAN equipments) which were capitalized after the cut-off date. As capitalization of these items after the cut-off date is not claimed for the purpose of tariff and does not form part of the capital cost, the exclusion of the said amounts are in order and is allowed.

Inter Project Transfer

33. The petitioner has excluded the capitalization of ₹1.51 lakh in 2009-10 against Mahindra Petrol Jeep which was transferred from Tripura Gas Based Power Project (TGBPP) to this generating station. The Commission while dealing with the petitions for additional capitalization in respect of generating stations of NTPC had decided that both positive and negative entries arising out of inter-unit transfers of temporary nature shall be ignored for the purposes of tariff. In line with the said decision, the exclusion of (-) ₹1.51 lakh in 2009-10 on this count is allowed.

De-capitalization of old assets without any replacement by new assets

34. The petitioner has sought the exclusion for de-capitalization of (-) ₹1.07 lakh in 2009-10 for as part of the land sold to the Tripura Government for road purpose. It is observed from the details furnished by the petitioner that the land de-capitalized was part of the capital cost. In view of this, the exclusion of the said amount is not allowed.

Transfer to other office/unit

35. The petitioner has excluded the de-capitalization of (-) ₹3.14 lakh in 2012-13 (which includes ₹1.84 lakh towards buses & truck and ₹1.29 lakh towards furniture) for assets which were transferred to TGBPP. The Commission while dealing with the petitions for additional capitalization in respect of generating stations of NTPC had decided that both positive and negative entries arising out of inter-unit transfers of temporary nature shall be ignored for the purposes of tariff. In line with the said decision, the exclusion of the said amount of (-) ₹3.14 lakh is in order and allowed.

36. Accordingly, the exclusions claimed *vis-à-vis* allowed is summarized as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Exclusion claimed(A)	24.14	21.47	18.31	16.11	50.97
Exclusion allowed(B)	25.21	21.47	18.31	16.11	50.97
Exclusion not allowed (A-B)	**(-) 1.07**	**0.00**	**0.00**	**0.00**	**0.00**

37. Based on the above discussions, the actual additional capital expenditure allowed for the period 2009-14 is summarized as under:

(₹in lakh)

Sl. No	Head of Works/ Equipment	2009-10	2010-11	2011-12	2012-13	2013-14	Total
A	**Additional Capital Expenditure**						
1	Extension of Administration Building	0.00	0.00	0.00	15.08	0.00	15.08
2	Construction of periphery road around Plant complex, along with the boundary wall	0.00	0.00	23.14	0.00	0.00	23.14
3	Net Additional Capital Expenditure (1+2)	0.00	0.00	23.14	15.08	0.00	38.22
B	**New Claims**						
4	Completion of balance works of fire fighting system of the plant	0.00	0.00	92.13	0.00	0.00	92.13
5	Mark v control panel	0.00	0.00	0.00	766.55	0.00	766.55
6	Transportation of main plant Equipment	0.00	0.00	0.00	0.00	10.05	10.05
7	Total New Claims	0.00	0.00	92.13	766.55	10.05	868.73
8	**Total**	0.00	0.00	115.27	781.63	10.05	906.95
C	**De-capitalization**						
9	De-capitalization of the old assets replaced by the new assets	0.00	0.00	0.00	0.00	0.00	0.00
10	Gas turbine (Mark iv Control panel of Unit 1&2)	0.00	0.00	0.00	(-) 341.13	0.00	(-) 341.13
	Total**(A+B+C)**	0.00	0.00	0.00	(-) 341.13	0.00	(-) 341.13
	Net additional capital expenditure	0.00	0.00	115.27	440.50	10.05	565.82
	Exclusions not allowed	(-)1.07	0.00	0.00	0.00	0.00	(-)1.07
	Net additional capital expenditure allowed	**(-) 1.07**	**0.00**	**115.27**	**440.50**	**10.50**	**564.75**

Capital Cost for 2009-14

38. Accordingly, the capital cost approved for the period 2009-14 is as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	33607.86	33606.79	33606.79	33722.06	34162.56
Admitted Additional capital expenditure	(-) 1.07	0.00	115.27	440.50	10.05
Closing capital cost	**33606.79**	**33606.79**	**33722.06**	**34162.56**	**34172.61**

Debt Equity Ratio

39. In terms of Regulation 12 of 2009 Tariff Regulations, the debt-equity ratio of 70:30 has been considered on the additional capital expenditure for the purpose of tariff.

Return on Equity

40. In terms of Regulation 15 of the 2009 Tariff Regulations, the petitioner has considered MAT rate for grossing up of the Rate of Return on Equity. Accordingly, Return on Equity has been worked out as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	16513.72	16513.40	16513.40	16547.98	16680.13
Addition due to additional capitalisation	(-) 0.32	0.00	34.58	132.15	3.02
Closing Equity	16513.40	16513.40	16547.98	16680.13	16683.15
Average Equity	16513.56	16513.40	16530.69	16614.06	16681.64
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax rate (MAT)	16.9950%	19.9305%	20.0078%	20.0078%	20.9605%
Rate of Return on Equity (Pre Tax)	18.674%	19.358%	19.377%	19.377%	19.610%
Return on Equity (Pre Tax)	**3083.74**	**3196.66**	**3203.15**	**3219.31**	**3271.27**

Interest on Loan

41. 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

42. The date of commercial operation of the generating station is 1.8.1998. Since the generating station has completed 12 years of operation as on 1.8.2010, the weighted average rate of depreciation of 5.103% has been considered for calculation of depreciation for the years 2009-10 and 2010-11. The remaining depreciable value has been spread over the balance useful life of the assets from the year 2011-12 to 2013-14. Accordingly, in terms of Regulation 17 of the 2009 Tariff Regulations, depreciation has been worked out as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	33607.86	33606.79	33606.79	33722.06	34162.56
Additional Capitalization	(-)1.07	0.00	115.27	440.50	10.05
Closing Gross Block	33606.79	33606.79	33722.06	34162.56	34172.61
Average Gross Block	33607.32	33606.79	33664.42	33942.31	34167.58
value of Gross block excluding Land	276.39	276.39	276.39	276.39	276.39
Rate Of Depreciation	5.1026%	5.1026%	5.1026%	5.1026%	5.1026%
Depreciable Value including amortization of lease land in 25	29997.84	29997.36	30049.23	30299.33	30502.08

years					
Balance Useful life of the asset	14.33	13.33	12.33	11.33	10.33
Remaining Depreciable Value	9226.84	7512.23	5849.28	5625.10	5582.84
Depreciation	**1714.85**	**1714.82**	**474.28**	**496.35**	**540.29**

O&M Expenses

43. O & M expenses allowed vide order dated 11.3.2011 in Petition No. 299/2009 has been considered.

(₹in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
2667.00	2819.88	2981.16	3151.68	3331.44

Interest on Working Capital

44. In accordance with sub-clause (b) of clause (1) of Regulation 18 of the 2009 regulations, working capital in case of open cycle gas turbine shall cover**:**

(i) Fuel cost for one month corresponding to the normative annual plant availability factor, duly taking into account the mode of operation of the generating station on gas and liquid fuel;

(ii) xxxxxxx

(iii) Maintenance spares at 30% of operation and maintenance expenses specified in Regulation 19;

(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(v) Operation and maintenance expenses for one month.

45. Based on the above, the fuel cost for one month in the working capital is worked out as under:

(₹in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
481.69	481.69	481.69	481.69	481.69

Maintenance Spares

46. Maintenance spares @ 30% of the O&M expenses allowed vide order dated 11.3.2011 in Petition No.299/2009 has been considered as under.

(₹in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
800.10	845.96	894.35	945.50	999.43

Receivables

47. Receivables equivalent to two months of capacity charge and energy charge calculated on normative plant availability factor is allowed as under:

(₹in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
2285.00	2331.44	2150.21	2187.09	2235.43

O&M Expenses (one month)

48. O&M expenses for one month allowed in order dated 11.3.2011 in Petition No.299/2009 has been considered as under:

(₹in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
222.25	234.99	248.43	262.64	277.62

49. In terms of Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the SBI PLR as on 1.4.2009 was 12.25%. The said interest rate has been considered in the calculations for the purpose of tariff.

50. Necessary computation in support of interest on working capital is as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel Cost	481.69	481.69	481.69	481.69	481.69
O & M expenses- one month	222.25	234.99	248.43	262.64	277.62
Maintenance Spares	800.10	845.96	894.35	945.50	999.43
Receivables – 2 months	2285.00	2331.44	2150.21	2187.09	2235.43
Total	3789.04	3894.09	3774.68	3876.92	3994.17
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Total Interest on Working Capital	**464.16**	**477.03**	**462.40**	**474.92**	**489.29**

Annual Fixed Charges

51. The annual fixed charges approved for the generating station for the period from 1.4.2009 to 31.3.2014 is as under:

(₹in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	3083.74	3196.66	3203.15	3219.31	3271.27
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	1714.85	1714.82	474.28	496.35	540.29
Interest on Working Capital	464.16	477.03	462.40	474.92	489.29
O&M Expenses	2667.00	2819.88	2981.16	3151.68	3331.44
Total	**7929.75**	**8208.39**	**7120.99**	**7342.26**	**7632.29**

52. The difference between the annual fixed charges recovered by the petitioner by order dated 11.3.2011 and those determined by this order shall be adjusted in terms of Clause (6) of Regulation 6 of the 2009 Tariff Regulations

Petition No.44/GT/2015

Determination of Annual Fixed Charges for the period 2014-19

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	537.86	569.20	825.03	1063.03	1104.09
Interest on Loan	0.00	30.01	73.21	71.31	17.79
Return on Equity	3288.45	3821.41	4103.02	4141.69	4150.78
Interest on Working Capital	903.81	936.49	967.99	994.79	1016.60
O & M Expenses	3470.88	3707.76	3959.76	4229.40	4517.52
Total	**8201.01**	**9064.87**	**9929.01**	**10500.22**	**10806.78**

54. 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 respondent, APDCL has filed its reply to the petition and the petitioner has filed its rejoinder to the said reply. Based on the submissions of the parties 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

55. 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*

56. The petitioner has claimed capital cost of ₹34375.91 lakh as on 1.4.2014. The closing capital cost considered by the Commission as on 31.3.2014 in this order is ₹34172.61 lakh. This amount 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 during 2014-19

57. 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.

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

> *"14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*
>
> *(ii) Change in law or compliance of any existing law;*
>
> *(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;*
>
> *(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;*
>
> *(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*
>
> *(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*
>
> *(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*
>
> *(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to*

increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

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

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

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

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

59. The year-wise break-up 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
301.90	2108.50	1728.00	250.00	215.00

60. The break-up of the projected additional capital expenditure and the net additional capital expenditure claimed during the period 2014-19 is as under:

(₹ in lakh)

Sl. No.	**Head of Work/Equipments**	**Projected Additional Capital Expenditure**					**Total**
		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	
(A)	**Additional Capital Expenditure**						
1	Battery Bank (220 V & 125 V) with Chargers	80.00	0.00	0.00	0.00	0.00	80.00
2	6.6 kV Numerical Relay	20.00	28.00	0.00	0.00	0.00	48.00
3	SSB/EMC	50.00	0.00	0.00	0.00	0.00	50.00
4	Torque Converter etc.	85.00	0.00	0.00	0.00	0.00	85.00
5	Isolators	40.00	200.00	200.00	200.00	40.00	680.00
6	Cooling water pump	6.90	11.50	0.00	0.00	0.00	18.40
7	Gas Flow Meter	20.00	0.00	0.00	0.00	0.00	20.00
8	Up-gradation of controller for two units	0.00	1500.00	0.00	0.00	0.00	1500.00
9	Circuit breaker	0.00	36.00	0.00	0.00	0.00	36.00

10	PT	0.00	20.00	0.00	0.00	0.00	20.00
11	LA	0.00	25.00	0.00	0.00	0.00	25.00
12	AVR	0.00	240.00	80.00	0.00	0.00	320.00
13	Pulsing system	0.00	48.00	0.00	0.00	0.00	48.00
14	Gas Turbine Rotor	0.00	0.00	1400.00	0.00	0.00	1400.00
15	Generator Breaker	0.00	0.00	48.00	0.00	0.00	48.00
16	Gas detection protection	0.00	0.00	0.00	20.00	0.00	20.00
17	Fire protection	0.00	0.00	0.00	20.00	0.00	20.00
18	Radiator Fan	0.00	0.00	0.00	10.00	0.00	10.00
19	Generator Transformer	0.00	0.00	0.00	0.00	175.00	175.00
	Total Additional Capital Expenditure (1 to 19)	**301.90**	**2108.50**	**1728.00**	**250.00**	**215.00**	**4603.40**
(B) De-capitalization							
20	Battery Bank with Chargers	35.60	0.00	0.00	0.00	0.00	35.60
21	6.6kV Numerical Relay	8.90	12.46	0.00	0.00	0.00	21.36
22	SSB/EMC	22.25	0.00	0.00	0.00	0.00	22.25
23	Torque Converter etc.	37.83	0.00	0.00	0.00	0.00	37.83
24	Isolators	17.80	89.00	89.00	89.00	17.80	302.60
25	Cooling water pump	3.07	5.12	0.00	0.00	0.00	8.19
26	Gas Flow Meter	8.90	0.00	0.00	0.00	0.00	8.90
27	Up-gradation of controller for two units	0.00	66.75	0.00	0.00	0.00	66.75
28	Circuit breaker	0.00	16.02	0.00	0.00	0.00	16.02
29	PT	0.00	8.90	0.00	0.00	0.00	8.90
30	LA	0.00	11.13	0.00	0.00	0.00	11.13
31	AVR	0.00	106.81	35.60	0.00	0.00	142.41
32	Pulsing system	0.00	7.12	0.00	0.00	0.00	7.12
33	Gas Turbine Rotor	0.00	0.00	623.03	0.00	0.00	623.03
34	Generator Breaker	0.00	0.00	21.36	0.00	0.00	21.36
35	Gas detection protection	0.00	0.00	0.00	8.90	0.00	8.90
36	Fire protection panel	0.00	0.00	0.00	8.90	0.00	8.90
37	Radiator Fan	0.00	0.00	0.00	4.45	0.00	4.45
38	Generator Transformer	0.00	0.00	0.00	0.00	0.00	77.88
	Total De-capitalization (20 to38)	**134.35**	**323.31**	**768.99**	**111.25**	**95.68**	**1433.58**
	Net Additional Capital Expenditure (A-B)	**167.55**	**1785.19**	**959.01**	**138.75**	**119.32**	**3169.82**

Battery Banks (220 V & 125 V) with Chargers

61. The petitioner has claimed projected additional capital expenditure of ₹80.00 lakh in 2014-15 with corresponding de-capitalization of ₹35.60 lakh in 2014-15 towards Battery Banks (220 V & 125 V) with Chargers. In justification to the same, the petitioner has submitted that since commissioning, these battery banks have not been replaced and is now being replaced due to end of useful life and non-availability of maintenance spares. The respondent, APDCL vide affidavit dated 30.3.2015 has submitted that items requiring replacement due to wear and tear come under O&M Expenses and for replacement of such items , the amount recovered as depreciation may be used. In response, the petitioner vide its rejoinder affidavit dated 1.7.2015 has stated that the existing battery banks have been in use since commissioning and their useful life has expired requiring replacement.

62. We have examined the matter. The submissions of the respondent, APDCL that the expenses may be covered under O&M expenses is not acceptable as the expenditure claimed for capitalization is in respect of works of capital nature and are not in the nature of revenue expenses. In the instant case, the old assets are being replaced either on account of expiry of its useful life or obsolescence /deterioration in performance etc., which were put to use since inception of the generating station and accordingly additional capitalization has been sought on the grounds that replacement of these assets are necessary for successful and efficient operation of the plant. 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. Since the capital expenditure incurred or projected to be incurred are admitted only after prudence check in terms of the 2014 Tariff Regulations, only those expenditure which are necessary for efficient and successful operation of the plant are serviced through tariff by the respondents. Accordingly, we allow the claim of petitioner for capitalization of the expenditure under Regulation 14(3)(vii) of the 2014 Tariff Regulations along with the corresponding de-capitalization.

6.6 kV Numerical Relay

63. The petitioner has claimed projected additional capital expenditure of ₹48.00 lakh (₹20.00 lakh in 2014-15 and ₹28.00 lakh in 2015-16) with corresponding de-capitalization of ₹21.36 lakh (₹8.90 lakh

in 2014-15 and ₹12.46 lakh in 2015-16) towards 6.6 kV Numerical Relay. In justification, the petitioner has submitted that it is mandatory for replacement of these relays with numerical relays which comply IEC 61850 protocol. In view of the above submissions, the projected additional capital expenditure claimed is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations along with corresponding de-capitalization.

Station Service Board (SSB)/Emergency Machine Control (EMC)

64. The petitioner has claimed projected additional capital expenditure of ₹50.00 lakh with corresponding de-capitalization of ₹22.25 lakh towards SSB/EMC in 2014-15. In justification of the same, the petitioner has submitted that the current breakers are out of production range and replacement is necessary. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM. In response, the petitioner vide affidavit 6.8.2015 has submitted that there has been no response from OEM. In view of the above, the claim of petitioner is disallowed. However the petitioner is granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Torque Converter etc

65. The petitioner has claimed projected additional capital expenditure of ₹85.00 lakh with corresponding de-capitalization of ₹37.83 lakh towards torque converter in 2014-15. In justification to the same, the petitioner has submitted no spare torque converter was supplied initially and it is not repairable at site. It has also submitted that the spare converter is essential to minimize downtime and therefore it has been thought to keep one Torque converter on standby to meet any eventuality. Considering the fact that capitalisation of spares are not admissible after the cut-off date of the generating station, the claim of the petitioner is not allowed.

Isolators

66. The petitioner has claimed projected additional capital expenditure of ₹680.00 lakh (₹40.00 lakh in 2014-15, ₹200.00 lakh in 2015-16, ₹200.00 lakh in 2016-17, ₹200.00 lakh in 2017-18 and ₹40.00

lakh in 2018-19) with corresponding de-capitalization of ₹302.60 lakh (₹17.80 lakh in 2014-15, ₹89.00 lakh in 2015-16, ₹89.00 lakh in 2016-17, ₹89.00 lakh in 2017-18 and ₹17.80 lakh in the 2018-19) towards Isolators. In justification to the same, the petitioner has submitted that the current isolators are to be replaced by new technology retrofitable isolators in phases as the present isolators are out of manufacturing range. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM. In response, the petitioner vide affidavit 6.8.2015 has submitted that there has been no response from OEM. In view of the above, the claim of petitioner is disallowed. However the petitioner is granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Cooling water pump

67. The petitioner has claimed projected additional capital expenditure of ₹18.40 lakh (₹6.90 lakh in 2014-15 and ₹11.50 lakh in 2015-16) with corresponding de-capitalization of ₹8.19 lakh (₹3.07 lakh in 2014-15 and ₹5.12 lakh in 2015-16) towards cooling water pump. The petitioner has submitted that the pumps are not viable to be retained in service for rising operating expenses and energy efficient motors need to be introduced as they are in service on 24x7 basis and is a Performance Achieve & Trade (PAT) requirement. In view of the submissions, the claim of the petitioner is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations.

Gas Flow Meter

68. The petitioner has claimed projected additional capital expenditure of ₹20.00 lakh in 2014-15 with corresponding de-capitalization of ₹8.90 lakh towards Gas Flow Meter. The meters are to be introduced as per PAT requirement. In view of the submissions, the claim of the petitioner is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations.

Up-gradation of controller for two units

69. The petitioner has claimed projected additional capital expenditure of ₹1500.00 lakh in 2015-16 with corresponding de-capitalization of ₹66.75 lakh towards Up-gradation of Controller for two units. In justification to the same, the petitioner has submitted that current controllers has become obsolete

and not available and are to be replaced by new technology controllers. In response to the directions of the Commission vide ROP of hearing dated 16.7.2015, the petitioner vide affidavit 6.8.2015 has furnished the obsolescence certificate from OEM. In view of the above, the claim of petitioner is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations, with corresponding de-capitalization. It is noticed that the original gross block of the replaced assets indicated by the petitioner is lower as compared to new assets. In view of this, the petitioner is directed to furnish the gross block of old assets as per books of accounts duly certified by Auditors, at the time of revision of tariff after truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

Circuit Breaker

70. The petitioner has claimed projected additional capital expenditure of ₹36.00 lakh in 2015-16 with de-capitalization of ₹16.02 lakh for Circuit Breaker. In justification to the same, the petitioner has submitted that the Circuit breakers are not being manufactured by ABB and are to be replaced by SPR type breakers. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM and the petitioner has not furnished the same. In view of this, the claim of petitioner has not been considered. The petitioner is however granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Power Transformer (PT)

71. The petitioner has claimed projected additional capital expenditure of ₹20.00 lakh in 2015-16 for Power Transformer (PT) with corresponding de-capitalization of ₹8.90 lakh. Considering the fact that capitalisation of spares are not admissible after the cut-off date of the generating station, the claim of the petitioner is not allowed.

Lightning Arrester

72. The petitioner has claimed projected additional capital expenditure of ₹25.00 lakh in 2015-16 with corresponding de-capitalization of ₹11.13 lakh for Lightning Arrester under Regulation 14(3)(vii) of the 2014 Tariff Regulations. In justification to the same, the petitioner has submitted that Lightning Arrester

is required to be replaced after end of useful life and is vital equipment and necessary for efficient operation of generating station. In view of the above submissions, the expenditure claimed is allowed.

Automatic Voltage Regulator (AVR)

73. The petitioner has claimed projected additional capital expenditure of ₹320.00 lakh (₹240 lakh in 2015-16 and ₹80.00 lakh in 2016-17) with corresponding de-capitalization of ₹142.41 lakh (₹106.81 lakh in 2015-16 and ₹35.60 lakh in 2016-17) towards AVR. In justification to the same, the petitioner has submitted that AVR have become technologically obsolete. In response to the directions of the Commission vide ROP of hearing dated 16.7.2015, the petitioner vide affidavit 6.8.2015 has furnished the obsolescence certificate from OEM. In view of the above, the claim of petitioner is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations with corresponding de-capitalization.

Pulsing system

74. The petitioner has claimed projected additional capital expenditure of ₹48.00 lakh in 2015-16 with corresponding de-capitalization of ₹7.12 lakh towards Pulsing system. In justification of the same, the petitioner has submitted that the pulsing system have become technologically obsolete, and is to be replaced by retrofittable system. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM and the petitioner vide affidavit 6.8.2015 has submitted that there is no product support in India. However, no obsolescence certificate from the OEM has been furnished. In view of this, the claim of petitioner is not allowed. The petitioner is however granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Gas Turbine Rotor

75. The petitioner has claimed projected additional capital expenditure of ₹1400.00 lakh in 2016-17 with corresponding de-capitalization of ₹623.03 lakh towards Gas Turbine Rotor as Spare. In justification of the same, the petitioner has submitted that no spare rotor was supplied initially and it is approaching the end of its useful life and the other rotors will be sent for refurbishment in phases. It has also submitted that the spare rotor is required to minimize the downtime. Considering the fact that capitalisation of spares are not admissible after the cut-off date of the generating station, the claim of the

petitioner is not allowed. However, in terms of the proviso to Regulation 29(2) of the 2014 Tariff Regulations, the capital spares consumed by the petitioner during the period 2014-19 shall be furnished at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.

Generator Breaker

76. The petitioner has claimed projected additional capital expenditure of ₹48.00 lakh in 2016-17 with corresponding de-capitalization of ₹21.36 lakh towards Generator breaker. In justification of the same, the petitioner has submitted that the Generator breakers are not being manufactured by M/s. ABB and are to be replaced by M/s.SPR type breakers. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM and the petitioner vide affidavit 6.8.2015 has submitted that there was no response from OEM. In view of this, the claim of petitioner is not allowed. The petitioner is however granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Gas detection protection panel

77. The petitioner has claimed projected additional capital expenditure of ₹20.00 lakh in 2017-18 with corresponding de-capitalization of ₹8.90 lakh towards Gas detection protection panel. In the justification of the same, the petitioner has submitted that the protection system has become obsolete. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM and the petitioner vide affidavit 6.8.2015 has submitted that there is no product support in India. However, no obsolescence certificate from the OEM has been furnished. In view of this, the claim of petitioner is not allowed. The petitioner is however granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Fire protection

78. The petitioner has claimed projected additional capital expenditure of ₹20.00 lakh in 2017-18 with de-capitalization of ₹8.90 lakh towards Fire protection. In justification of the same, the petitioner has submitted that the fire protection system has become obsolete. The Commission vide ROP of the hearing dated 16.7.2015 directed the petitioner to furnish the obsolescence certificate from OEM and the petitioner vide affidavit 6.8.2015 has submitted that there is no product support in India. However, no obsolescence certificate from the OEM has been furnished. In view of this, the claim of petitioner is not allowed. The petitioner is however granted liberty to approach the Commission at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations, subject to the petitioner furnishing the obsolescence certificate from OEM, with corresponding de-capitalization.

Radiator Fan

79. The petitioner has claimed projected additional capital expenditure of ₹10.00 lakh in 2017-18 with corresponding de-capitalization of ₹4.45 lakh towards Radiator fan. In justification of the same, the petitioner has submitted that these radiator fans are energy efficient. The generating station is in operation for about 17 years and the expenditure is required for efficient operation. In view of this, the expenditure is allowed under Regulation 14(2)(vii) of the 2014 Tariff Regulations.

Generator Transformer

80. The petitioner has claimed projected additional capital expenditure of ₹175.00 lakh in 2018-19 with corresponding de-capitalization of ₹77.88 lakh towards Generator Transformer. In justification of the same, the petitioner has submitted that one transformer is already available as spare and another is proposed to meet any eventuality. In our considered view, the capitalisation of one more generator transformer is for increasing spare requirement and the same is not justified. In view of this, the capitalisation of this expenditure is not allowed.

81. Based on the above discussions, the projected additional capital expenditure along with corresponding de-capitalization allowed for the period 2014-19 is summarized as under:

(₹ in lakh)

Sl. No.	Head of Work/Equipment	Projected Additional capital expenditure					Total
		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	
A.	**Additional Capital Expenditure**						
1	Battery Bank with Chargers	80.00	0.00	0.00	0.00	0.00	80.00
2	6.6 kV Numerical Relay	20.00	28.00	0.00	0.00	0.00	48.00
3	Cooling water pump	6.90	11.50	0.00	0.00	0.00	18.40
4	Gas Flow Meter	20.00	0.00	0.00	0.00	0.00	20.00
5	Up-gradation of controller for two units	0.00	1500.00	0.00	0.00	0.00	1500.00
6	Lightning Arrester	0.00	25.00	0.00	0.00	0.00	25.00
7	Automatic Voltage Regulator	0.00	240.00	80.00	0.00	0.00	320.00
	Total Additional Capital Expenditure (1 to 7)	**126.90**	**1804.50**	**80.00**	**0.00**	**0.00**	**2011.40**
(B)	**De-capitalization**						
8	Battery Bank with Chargers	35.60	0.00	0.00	0.00	0.00	35.60
9	6.6kV Numerical Relay	8.90	12.46	0.00	0.00	0.00	21.36
10	Cooling water pump	3.07	5.12	0.00	0.00	0.00	8.19
11	Gas Flow Meter	8.90	0.00	0.00	0.00	0.00	8.90
12	Up-gradation of controller for two units	0.00	66.75	0.00	0.00	0.00	66.75
13	Lightning Arrester	0.00	11.13	0.00	0.00	0.00	11.13
14	Automatic Voltage Regulator	0.00	106.81	35.60	0.00	0.00	142.41
	Total De-capitalization (B) (8 to 14)	**56.47**	**202.27**	**35.60**	**0.00**	**0.00**	**294.34**
	Net additional capital expenditure allowed (A-B)	**70.43**	**1602.23**	**44.40**	**0.00**	**0.00**	**1717.06**

82. The projected additional capital expenditure allowed as above is subject to the petitioner carrying out RLA study and preparation of a comprehensive R&M scheme with cost benefit analysis before incurring such expenditure. The same shall be submitted at the time of revision of tariff of the generating station based on truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.

83. Accordingly, the projected 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
Projected Additional capital expenditure allowed	126.90	1804.50	80.00	0.00	0.00
De-capitalization	56.47	202.27	35.60	0.00	0.00
Net Additional Capital expenditure allowed	**70.43**	**1602.23**	**44.40**	**0.00**	**0.00**

Capital Cost for 2014-19

84. As stated, the closing capital cost as on 31.3.2014 is ₹34172.61 lakh and 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 is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	34172.61	34243.04	35845.27	35889.67	35889.67
Additional Capital expenditure allowed	70.43	1602.23	44.40	-	-
Capital Cost as on 31st March of the year	**34243.04**	**35845.27**	**35889.67**	**35889.67**	**35889.67**

Return on Equity

85. 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.*

86. 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."

87. The petitioner has considered the Rate of Return on Equity as under:

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Base Rate	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	20.9605%	30.7949%	33.9900%	33.9900%	33.9900%
Rate of ROE (pre-tax)	19.610%	22.397%	23.481%	23.481%	23.481%

88. With regard to tax rate claimed for the purpose of grossing up of RoE, the Commission vide ROP dated 7.4.2015 directed the petitioner to submit clarification/information on the following:

"The applicable tax rate for grossing up of Return on Equity as claimed by the petitioner is Minimum Alternate Tax rate for the year 2014-15 and Corporate Tax rate for the years 2015-16 to 2018-19. Clarification/ justification for the change in applicable tax rate claimed"

89. In response, the petitioner vide affidavit dated 15.6.2015 has submitted as under:

2014-15

After availing available MAT credit during the financial year 2014-15, it is estimated that the effective tax rate applicable for NEEPCO for the FY 2014-15 is expected to be the MAT rate only and accordingly the same has been considered.

2015-16

It is estimated that the during the FY 2015-16, the balance of the MAT credit available will be exhausted resulting in the expected effective tax rate for NEEPCO considered, which is more than MAT rate but lower than corporate tax rate

2016-17 to 2018-19

It is expected that total MAT credit available will be exhausted during the FY 2015-16. Accordingly, NEEPCO will continue to paying normal corporate tax since the FY 2016-17 and accordingly, the same has been considered

90. However for the purpose of tariff determination on projected basis for the period 2014-19, MAT rate have been considered for grossing up of Rate of Return on Equity. The petitioner is however directed to furnish the detailed calculation of the effective tax rate, duly certified by Auditor and supported by tax audit report for the respective years, at the time of revision of tariff based on truing-up exercise in terms of Regulation 8 the 2014 Tariff Regulations. Return on Equity has been computed as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Notional Equity	16683.15	16704.28	17184.94	17198.26	17198.26
Addition due to Additional capital expenditure	21.13	480.67	13.32	-	-
Closing Equity	16704.28	17184.94	17198.26	17198.26	17198.26
Average Equity	16693.71	16944.61	17191.60	17198.26	17198.26
Rate of Return on Equity	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity	**3273.64**	**3322.84**	**3371.27**	**3372.58**	**3372.58**

Interest on Loan

91. 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."

92. 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, except for the years 2015-16 and 2016-17. As such, Interest on loan for the period 2014-19 is worked out and allowed as under:

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative loan	17489.46	17538.76	18660.33	18691.41	18691.41
Cumulative repayment upto previous year	17489.46	17538.76	18178.62	18691.41	18691.41
Net loan-opening	-	-	481.71	-	-
Additions due to additional capital expenditure	49.3	1121.56	31.08	-	-
Repayment during the year	49.3	639.86	512.79	-	-
Net loan-closing	-	481.71	-	-	-
Average Loan	-	240.85	240.85	-	-
Weighted Average Rate of Interest on loan	8.8219%	8.8219%	8.8219%	8.8219%	8.8219%
Interest on loan	**-**	**21.25**	**21.25**	-	-

Depreciation

93. Regulation 27of 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."

94. The COD of the generating station is 1.8.1998. Since the generating station has completed 12 years of operation during 2010-11, the remaining depreciable value has been spread over the balance useful life of the generating station. Accordingly, depreciation has been computed as follows:

(₹ In lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Gross	34172.61	34243.04	35845.27	35889.67	35889.67
Additional capital expenditure	70.43	1602.23	44.40	-	-
Closing gross block	**34243.04**	**35845.27**	**35889.67**	**35889.67**	**35889.67**
Average gross block	34207.82	35044.15	35867.47	35889.67	35889.67
Value of Freehold Land included in Gross Block	276.39	276.39	276.39	276.39	276.39
Depreciation Value excluding freehold land	30538.29	31290.99	32031.97	32051.95	32051.95
Balance Useful life of the asset	9.33	8.33	7.33	6.33	5.33
Remaining Depreciable Value	5078.76	5329.99	5581.23	4866.78	4097.93
Depreciation (for the period)	**544.35**	**639.86**	**761.42**	**768.84**	**768.84**
Depreciation allowed as % on remaining depreciable value	1.78%	2.04%	2.38%	2.40%	2.40%

O&M Expenses

95. Regulation 29 (c) of the 2014 Tariff Regulations provides the year-wise O&M expense norms claimed for the generating station of the petitioner as under:

(₹ in lakh/MW)

2014-15	2015-16	2016-17	2017-18	2018-19
41.32	**44.14**	**47.14**	**50.35**	**53.78**

96. Accordingly, 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
3470.88	**3707.76**	**3959.76**	**4229.40**	**4517.52**

Operational Norms

97. The operational norms in respect of the generating station claimed by the petitioner are as under:

Target Availability for recovery of Fixed Charges	85
Gross Station Heat Rate (kcal/kwh) Combined cycle	3700
Auxiliary Energy Consumption (Combined cycle) %	1.0

98. The operational norms of Normative Plant Availability Factor claimed by the petitioner are in accordance with the provisions of Regulation 36 of the 2014 Tariff Regulations and hence allowed. The petitioner has also prayed that it may be granted liberty to approach the Commission for seeking

relaxation of operational norms under Regulation 54 and 55 of the 2014 Tariff Regulations, as per actual performance during the period 2014-19 due to difficulties if any, faced by it. In our view, liberty to seek relaxation of operational norms cannot be granted in anticipation of the difficulties faced by the petitioner. Accordingly, the prayer of the petitioner is premature and hence not permitted.

Interest on working capital

99. 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*
>
> *(b) Open-cycle Gas Turbine/Combined Cycle thermal generating stations*
>
> *(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(ii) Maintenance spares @ 30% of operation and maintenance expense specified in regulation 29; and*
>
> *(iii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel';*
>
> *(iv)Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(v) Operation and maintenance expenses for one month."*

Fuel Components in working capital

100. The petitioner has claimed fuel cost is based on fuel for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of generating station on gas fuel. The petitioner has claimed fuel cost for 30 days corresponding to NAPAF for each year of the tariff period as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1332.51	1336.16	1332.51	1332.51	1332.51

101. The petitioner has worked out the fuel cost in terms of the provision of Regulation 28 (b) (i) and Regulation 28(2) of 2014 Tariff Regulations. The fuel cost based on the landed cost of fuel on GCV basis for January, 2014 to March, 2014 with fuel price escalation is nil. Fuel cost has been computed based on the weighted average price and GCV of fuel (gas procured during the preceding three months of January, 2014, February, 2014 and March, 2014 as submitted by the petitioner. Accordingly, the fuel component in working capital has been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1332.39	1336.20	1332.39	1332.39	1332.39

Maintenance Spares

102. The petitioner has claimed Maintenance spares in the working capital as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1041.26	1112.33	1187.93	1268.82	1335.26

103. The 2014 Tariff Regulations provide for maintenance spares @ 30% of the operation & maintenance expenses as specified in Regulation 29. Accordingly, maintenance spares claimed by the petitioner is allowed

104. Receivables equivalent to two months of capacity charge and energy charge are worked out and allowed as under:

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges -2 months	2664.78	2672.40	2664.78	2664.78	2664.78
Fixed Charges - 2 months	1365.40	1436.44	1510.36	1556.57	1608.24
	4030.18	**4108.84**	**4175.14**	**4221.35**	**4273.02**

105. O&M expenses for one month is worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
289.24	308.98	329.98	352.45	376.46

Rate of interest on working capital

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

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

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

Interest on Working Capital

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Fuel Cost	1332.39	1336.20	1332.39	1332.39	1332.39
O & M expenses	289.24	308.98	329.98	352.45	376.46
Spares	1041.26	1112.33	1187.93	1268.82	1355.26
Receivables- 2 months	4030.18	4108.84	4175.14	4221.36	4273.02
Total Working Capital	6693.08	6866.35	7025.43	7175.02	7337.13
Interest Rate (Base rate)	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working Capital	**903.57**	**926.96**	**948.43**	**968.63**	**990.51**

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

(₹in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	3273.64	3322.84	3371.27	3372.58	3372.58
Interest on Loan	0.00	21.25	21.25	0.00	0.00
Depreciation	544.35	639.86	761.42	768.84	768.84
Interest on Working Capital	903.57	926.96	948.43	968.63	990.51
O & M Expenses	3470.88	3707.76	3959.76	4229.40	4517.52
Annual Fixed Charges	**8192.43**	**8618.66**	**9062.14**	**9339.45**	**9649.46**

ENERGY/VARIABLE CHARGES

110. Clause 6 sub-clause (b) of Regulation 30 of the 2014 Tariff Regulations provides for computation and payment of Capacity Charge and Energy Charge for thermal generating stations:

> *"6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula*:
>
> *(b) For gas and liquid fuel based stations*
>
> *ECR = GHR x LPPF x 100* **/** *{CVPF x (100 – AUX) }*
>
> *Where,*
>
> *AUX = Normative auxiliary energy consumption in percentage.*
> *CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.*
> *CVSF = Calorific value of secondary fuel, in kCal per ml.*
> *ECR = Energy charge rate, in Rupees per kWh sent out.*
> *GHR = Gross station heat rate, in kCal per kWh.*
> *LC = Normative limestone consumption in kg per kWh.*
> *LPL = Weighted average landed price of limestone in Rupees per kg.*
>
> *LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per*

111. Based on the operational norms, GCV and Price of domestic gas for the preceding three months i.e. January, 2014, February, 2014 and March, 2014 the Energy Charge Rate (ECR) on ex-power plant basis has been computed and considered as under:

	Unit	**2014-15,2016-17, 2017-18 and 2018-19**	**2015-16**
Capacity	MW	84	
Fuel		GAS	
Normative Heat-Rate	kCal/kWh	3700	3700
Auxiliary Power Consumption	%	1.0	1.0
Weighted average rate of fuel	/1000SCM	6336.640	6336.640
Weighted average GCV of fuel	Kcal/SCM	9170.63	9170.63
Rate of energy charge ex-bus	Paisa/kWh	**258.242**	**258.242**
ESO in one month @ 85% PLF	**MU**	625.46	627.18

112. Energy Charge Rate (ECR) in ₹/kWh on ex-power plant on month to month basis shall be calculated up to three decimal places in accordance with the formulae given in Regulation 30(6)(b) of 2014 Tariff Regulations

Enhancement of O&M expenses

113. The petitioner in the petition has submitted that the salary & wages of the employees of the petitioner will be due with effect from 1.1.2017. It has further submitted that the yearly escalation provided in the O&M expenses may not cover the enhanced employee cost due to the aforesaid pay revision. Accordingly, the petitioner has sought liberty to approach the Commission for seeking enhancement in the O&M expenses with effect from 1.1.2017 due to pay revision, if any, under Regulation 54 and 55 of the 2014 Tariff Regulations. The matter has been examined. Similar prayer of the petitioner was considered by the Commission in Petition No.43/GT/2015 (tariff of Doyang HEP for 2014-19) and the Commission vide its order dated 13.1.2016 has observed as under:

> *"42. Accordingly, the prayer of the petitioner for enhancement of O&M expenses if any, due to pay revision may be examined by the Commission, on a case to case basis, subject to the implementation of pay revision as per DPE guidelines and the filing of an appropriate application by the petitioner in this regard."*

The prayer of the petitioner in the present case is disposed of in terms of the above.

Application Fee and Publication Expenses

114. 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 the filing fees of 369600/- for the period 2014-15 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 5.1.2016 in Petition No. 232/GT/2014, we direct that the petitioner shall be entitled to recover the filing

fees and the expenses incurred on publication of notices for the period 2014-15 directly from the respondents pro rata on submission of documentary proof. 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.

115. 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.

116. Petition Nos. 453/GT/2014 & 44/GT/2015 is disposed of in terms of the above.

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