CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 287/GT/2014

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

Date of Order: 19th September, 2016

In the matter of

Approval of tariff of Anta Gas Power Station (419.33 MW) for the period from 1.4.2014 to 31.3.2019

And

In the matter of

NTPC Ltd
NTPC Bhawan,
Core-7, SCOPE Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003 …**Petitioner**

Vs

1. Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan,
14, Ashoka Road,
Lucknow – 226001

2. Ajmer Vidyut Vitran Nigam Ltd.
Old Power House, Hathi Bhsata,
Jaipur Road, Ajmer

3. Jaipur Vidyut Vitran Nigam Ltd.
Vidyut Bhawan, Janpath,
Jaipur – 302005

4. Jodhpur Vidyut Vitran Nigam Ltd.
New Power house, Industrial Area, Jodhpur

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

6. BSES Rajdhani Power Ltd.
2nd Floor, B Block, Nehru Place,
New Delhi 110019

7. BSES Yamuna Power Ltd.
Shakti Kiran Building, Karkardooma, Delhi – 110092

8. Punjab State Power Corporation Ltd.
The Mall, Patiala – 147001

9. Haryana Power Purchase Centre,
Shakti Bhawan, Sector VI,
Panchkula - 134019

10. Himachal Pradesh State Electricity Board Ltd,
Vidyut Bhawan,
Shimla – 171004

11. Power Development Department (J&K),
Government of J&K,
Mini Secretariat, Jammu

12. Power Department,
Union Territory of Chandigarh,
Additional Office Building, Sector 9D,
Chandigarh

13. Uttrakhand Power Corporation Ltd.
Urja Bhawan, Kanwali Road,
Dehradun- 248001 …**Respondents**

Parties present:

Shri Ajay Dua, NTPC
Shri S.P Kesarwani, NTPC
Shri A.K Bishoi, NTPC
Shri T. Vinodh Kumar, NTPC
Shri Rajeev Choudhary, NTPC
Shri R.B. Sharma, Advocate, BRPL
Shri Pradeep Misra, Advocate, Rajasthan Discoms
Shri Manish Garg, UPPCL

ORDER

This petition has been filed by the petitioner, NTPC for approval of tariff of Anta Gas Power Station (419.33 MW) for the period from 1.4.2014 to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ("the 2014 Tariff Regulations").

2. The generating station with a capacity of 419.33 MW comprises of three Gas Turbine units of 88.71 MW each and one Steam Turbine unit of 153.20 MW. The dates of commercial operation of different units of the generating station are as under:

	Date of Commercial operation (COD)
Unit-I (GT)	1.4.1989
Unit-II (GT)	1.5.1989
Unit-III (GT)	1.7.1989
Unit-IV (ST) / Generating station	1.8.1990

3. The Commission by order dated 25.5.2016 in Petition No. 331/GT/2014 had revised the tariff of the generating station for the period 2009-14 after truing-up of the actual additional capital expenditure incurred in respect of the generating station for the period 2009-14 in terms of Regulation 6(1) of the 2009 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges approved by order dated 25.5.2016 are as under:

Capital Cost

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Opening capital cost	70579.79	79815.97	80182.53	80215.27	80206.22
Actual additional Capital Expenditure	9236.18	366.56	32.74	(-) 9.05	66.14
Closing capital cost	**79815.97**	**80182.53**	**80215.27**	**80206.22**	**80272.36**

Annual Fixed Charges

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Depreciation	2119.51	2662.21	2743.37	2746.46	2760.61
Interest on Loan	513.43	419.54	453.22	337.14	217.70
Return on Equity	7464.96	7713.13	7638.47	7639.29	7820.09
Interest on Working Capital	2437.94	2476.98	2508.42	2528.55	2558.96
O&M Expenses	6206.08	6562.51	6935.72	7334.08	7753.41
Total	**18741.92**	**19834.37**	**20279.20**	**20585.52**	**21110.78**

4. The petitioner vide affidavit dated on 14.8.2014 has filed this petition and has sought approval of tariff in accordance with the provisions of the 2014 Tariff Regulations. Thereafter, the annual fixed charges claimed were revised vide affidavit dated 31.10.2014.

Accordingly, the capital cost and the annual fixed charges claimed by the petitioner for the period 2014-19 are as under:

Capital Cost

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	80599.03	81701.31	84177.31	84818.31	84848.31
Add: Additional capital expenditure	1102.28	2476.00	641.00	30.00	30.00
Closing capital cost	**81701.31**	**84177.31**	**84818.31**	**84848.31**	**84878.31**
Average capital cost	**81150.17**	**82939.31**	**84497.81**	**84833.31**	**84863.31**

Annual Fixed Charges

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	2852.47	3120.84	3401.37	3476.85	3485.85
Interest on Loan	161.18	144.33	123.55	91.84	55.83
Return on Equity	6842.52	6951.90	7047.18	7067.69	7069.53
Interest on Working Capital	3759.70	3805.85	3837.31	3872.25	3907.38
O&M Expenses	6213.29	6602.99	7018.11	7458.64	7928.81
Total	**19829.15**	**20625.92**	**21427.51**	**21967.27**	**22447.41**

5. The petitioner has filed the additional information in compliance with the directions of the Commission and has served copies on the respondents. Reply has been filed by the respondents, UPPCL and BRPL and the petitioner has filed its rejoinder to the said replies. We now proceed to examine the claim of the petitioner, on prudence check, based on the submissions and the documents available on records as stated in the subsequent paragraphs.

Capital Cost as on 1.4.2014

6. 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 of the 2014 Tariff Regulations 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) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.

7. Clause (6) of Regulation 9 of the 2014 Tariff Regulations provides as under:

"9(6) The following shall be excluded or removed from the capital cost of the existing and new project:

(a) The assets forming part of the project, but not in use;

(b) De-capitalization of Asset;

(c) xxxxxx; and

(d) The proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;"

8. The petitioner has claimed opening capital cost of ₹80599.03 lakh as on 1.4.2014 as detailed under:

(₹ in lakh)

Capital cost as on 31.3.2014 as per Commission's order dated 14.9.2012 in Petition No. 280/2009	80898.31
Adjustment	(-) 299.28
Capital cost claimed as on 1.4.2014	**80599.03**

9. The Commission in order dated 25.5.2016 in Petition No. 331/GT/2014 had admitted the closing capital cost of ₹80272.36 lakh as on 31.3.2014. However, the petitioner has claimed opening capital cost of ₹80599.03 lakh after adjustment of (-) 299.28 lakh (80898.31 – 299.03) as on 1.4.2014. It is noticed that the opening capital cost of ₹80272.36 lakh as on 1.4.2014 admitted in order dated 25.5.2016 is less than the opening capital cost of ₹80599.03 lakh as on 1.4.2014 claimed by the petitioner. Accordingly, the opening capital cost of ₹80272.36 lakh as on 1.4.2014 as admitted by order dated 25.5.2016 has been considered for the determination of tariff for the period 2014-19.

Projected Additional Capital Expenditure

10. 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 or 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."

11. The break-up of the total projected additional capital expenditure claimed during the period 2014-19 is detailed as under:

(₹ in lakh)

Sl. No	Head of work / Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19
1	Phasing out of Halon fire fighting system	14(3)(vii)	200.22				
2	Replacement of underground fire fighting pipelines	14(3)(vii)	219.06				
3	Additional Reservoir	14(3)(vii) & 14(3)(ii)	73.87				
4	Additional raw water Reservoir	14(3)(vii)		1551.00			
5	Up-gradation of Process Operating System POS)-30	14(3)(vii)	448.78				
6	Replacement of existing air washer with energy efficient air washer	14(3)(vii)	108.35	115.00			
7	Installation of energy efficient LED lights	14(3)(vii)	52.00	30.00	30.00	30.00	30.00
8	Inlet air cooling system (GT-2 & GT-3)	14(3)(vii)		614.00			
9	Laying of railway track for inter-changeability of GT transformers spares/standby transformers.	14(3)(vii)		76.00			
10	Replacement of lube oil /generator cooler – Gas Turbine			90.00			
11	Construction of D type dwelling units and construction of club facilities for executive children and ladies.	14(3)(iii)			611.00		
	Total		**1102.28**	**2476.00**	**641.00**	**30.00**	**30.00**

12. The petitioner has submitted that in terms of the provisions of the 2014 Tariff Regulations, the formats in regard to the estimated capital expenditure for the tariff years 2014-15 to 2018-19 has been filed and the projected additional capital expenditure claimed is based on provisions of Regulation 14 of the 2014 Tariff Regulations. It has further submitted that the Commission in its various tariff orders for the period 2009-14 had

allowed additional capital expenditure in respect of certain works and tendering/execution etc. for these works have been taken up consequent upon the said approval of the Commission. The petitioner has stated that some of these approved works are likely to be capitalized during 2014-19. Accordingly, the petitioner has prayed that the capitalization of these approved works taken up on approval of the Commission may please be allowed. The cut-off date for the generating station has expired. Hence, the petitioner's claim for projected additional capital expenditure has to be examined in terms of Regulation 14 (3) of the 2014 Tariff Regulations. Accordingly, the claim of the petitioner for additional capital expenditure as above has been discussed in the succeeding paragraphs.

Additional capital expenditure against claims already approved during 2009-14 but could not be capitalized upto 31.3.2014

Phasing out of Halon fire fighting system

13. The petitioner has claimed projected additional capital expenditure of ₹200.22 lakh in 2014-15 as against the projected additional capital expenditure of ₹245.15 lakh allowed vide order dated 20.4.2012 in Petition No. 239/2009 in 2011-12 and as against additional capital expenditure of ₹179.00 lakh (with corresponding de-capitalization of ₹32.22 lakh estimated at 18%) allowed vide order dated 15.5.2014 in Petition no. 139/GT/2013. No claim was made by the petitioner towards this scheme in Petition No. 331/GT/2014. In justification of the same, the petitioner has now submitted that the work is still in progress and will be completed in the year 2014-15. It has submitted that the work was projected to be completed in 2012-13 but got delayed and hence no expenditure was considered till 31.3.2014 as erection of system requires the unit to be shut down and the actual capitalization of the scheme will occur during the period 2014-19.

14. The respondent, UPPCL has pointed out that there is significant deviation from the projected additional capital expenditure allowed for this scheme and no explanation has

been furnished by the petitioner. The respondent, BRPL has submitted that the Commission may allow the net amount of ₹146.78 lakh (exclusive of de-capitalisation) as additional capital expenditure for this work/scheme.

15. The matter has been examined. It is noticed that the petitioner was allowed additional capital expenditure of ₹179.00 lakh (with corresponding de-capitalization of ₹32.22 lakh estimated at 18%) vide Commission's order dated 15.5.2014 in Petition no. 139/GT/2013. We are of the considered view that the expenditure claimed is proximate to the expenditure already approved by the Commission in order dated 15.5.2014 and hence the net projected additional capital expenditure of ₹164.18 lakh [projected additional capital expenditure of ₹200.22 lakh with corresponding de-capitalization of ₹36.04 lakh (estimated at 18%)] is allowed. The petitioner is however directed to furnish the actual gross block of the old asset which has been replaced by new asset at the time of truing up of tariff of the generating station in terms of Regulation 8 of the 2014 Tariff Regulations.

Replacement of underground fire fighting pipelines

16. The petitioner has claimed projected additional capital expenditure of ₹219.06 lakh in 2014-15 towards Replacement of underground fire fighting pipelines as against the projected additional capital expenditure of ₹217.33 lakh in 2013-14 [(with corresponding de-capitalization of ₹39.12 lakh (estimated at 18%)] allowed vide order dated 15.5.2014 in Petition No. 139/GT/2013. No claim was made by the petitioner towards this work/asset in Petition No. 331/GT/2014. In justification of the same, the petitioner vide affidavit dated 14.8.2014 has now submitted that the work is still in progress and will be completed in 2014-15. The respondent, BRPL has submitted that the Commission may allow the net amount of ₹178.21 lakh (exclusive of de-capitalisation) as additional capital expenditure for this item of work.

17. The matter has been examined. We are of the considered view that the expenditure claimed is proximate to the expenditure already approved by the Commission in order dated 15.5.2014 and hence the net projected additional capital expenditure of 179.63 lakh [projected additional capital expenditure of 219.06 lakh with corresponding de-capitalization of ₹39.42 lakh (estimated at 18%)] is allowed. The petitioner is however directed to furnish the actual gross block of the old asset which has been replaced by new asset at the time of truing up of tariff of the generating station in terms of Regulation 8 of the 2014 Tariff Regulations.

Additional Reservoir

18. The petitioner has claimed projected additional capital expenditure of ₹73.87 lakh in 2014-15 for Additional Reservoir. The petitioner while pointing out that the Commission had allowed ₹455.87 lakh during 2009-14 has submitted that the work has been delayed due to re-awarding of work to various parties. It has also submitted that the work is likely to be capitalised in 2014-15.

19. The respondent, UPPCL has submitted that the nature of the expenditure does not fall within the scope of Regulation 14(3)(ii) of the 2009 Tariff Regulations. In response, the petitioner in its rejoinder has clarified that the expenditure towards Additional Reservoir was allowed by the Commission in order dated 20.04.2012 under Regulation 9(2)(ii) of the 2009 Tariff Regulations (i.e Change in law) as the canal closure period was increased by the Irrigation Department of the State Govt of Rajasthan. Accordingly, it has submitted that the Commission had considered the same as Change in policy of the State Govt and appreciated that the situation is beyond the control of the petitioner.

20. The matter has been examined. It is observed that the Commission in order 25.5.2016 in Petition No. 331/GT/2014 had allowed actual additional capital expenditure of ₹21.91 lakh in 2012-13 as against the projected additional capital expenditure of ₹90.00

lakh allowed in order dated 15.5.2014 in Petition No. 139/GT/2013. It is also observed that there has been less capitalization of ₹68.09 lakh as against the projected additional capital expenditure of ₹90.00 lakh for this work. In justification of the same, the petitioner has now claimed projected additional capital expenditure of ₹73.87 lakh for this work and has submitted that the work has been delayed due to re-awarding of work to various parties and the work is likely to be capitalized in 2014-15. It is evident from the submissions of the petitioner that in respect of some of the works, the petitioner could not undertake the job and /or capitalized the expenditure allowed by the Commission during the period 2009-14. This has caused the work to spill over during the period 2014-19 consequent upon which there is an increase in the projected additional capital expenditure claimed by the petitioner. In the present case, the balance expenditure for the said work was ₹68.09 (90.00-21.91) lakh which has now increased to ₹73.87 lakh, is apparently due to the inability of the petitioner execute the work in time. In this background, we are inclined to allow the projected additional capital expenditure of only ₹68.09 lakh (expenditure for balance amount of work in 2012-13 of the total approved cost) in 2014-15 against the claim for ₹73.87 lakh for additional reservoir. We order accordingly.

Regulation 14(3)(vii)

Additional Raw Water Reservoir

21. The petitioner has claimed projected additional capital expenditure of ₹1551.00 lakh in 2015-16 towards Additional Raw Water Reservoir**.** In justification of the same, the petitioner has submitted that with the increase in canal closure period which is around six months in average, the Command Area Development & Water Users (CAD & WU) Department, Govt. of Rajasthan has asked to increase the storage capacity of reservoir for four months. The petitioner has submitted that considering the above, one new reservoir

having capacity of additional 30 days of water requirement for the generating station has become necessary.

22. The respondent, BRPL has submitted that the claim of the petitioner under Regulation 14(3)(vii) is mostly against successful and efficient operation and the said claim is required to be substantiated with the technical justification duly supported by documentary evidence like test results carried out by independent agency in case of deterioration of assets which has not been done in this case. Accordingly, the respondent has submitted that the claim may be rejected. In response, the petitioner in its rejoinder has submitted that the capitalisation of the scheme of Additional raw water reservoir is supported by the directive of CAD & WU department, Govt of Rajasthan dated 25.7.2013.

23. On scrutiny of the Minutes of the meeting held under the Chairmanship of Principal Secretary, CAD & WU on 25.7.2013 it is noticed that a decision was taken, amongst others, that Reservoir for four months storage shall have to be constructed by the petitioner for water requirement at the time of canal closure period. In view of above, the projected additional capital expenditure of ₹1551.00 lakh in 2015-16 is allowed.

Upgradation of Process Operating system – POS 30

24. The petitioner has claimed projected additional capital expenditure of ₹448.78 lakh in 2014-15 towards Up-gradation of Process Operating system- POS 30**.** In justification of the same, the petitioner has submitted that in order to monitor and improve various operating parameters, a centralized plant Interface (PI) server has been installed consisting of POS 30 server, OPUs, PDDS, COS diagnostic station and Optimax PC to overcome problems related to POS 30 system. It has further submitted that as per OEM, the operating system and hardware of current POS 30 has become obsolete and needs to be upgraded. The petitioner in its rejoinder has submitted that these schemes are based on technical

recommendations for replacement of old system due to obsolescence by OEM and has enclosed copy of the same. It has also submitted that the work was awarded to M/s ABB (OEM) and completed in the year 2014-15. In consideration of the submissions of the petitioner, the projected additional capital expenditure claimed by the petitioner is allowed. The petitioner is, however, directed to furnish the actual gross block of old asset replaced by new asset, if any, at the time of truing-up of the generating station.

Replacement of existing Air Washer with energy efficient Air Washer

25. The petitioner has claimed projected additional capital expenditure of ₹108.35 lakh in 2014-15 and ₹115.00 lakh in 2015-16 for Replacement of existing Air Washer with energy efficient Air Washer. In justification of the same, the petitioner has submitted that the existing Air washers for more than 25 years old and have frequent problems of water leakages and also the performance of Air Washers have de-graded with the passage of time. The respondent, BRPL has submitted that the claim for projected additional capitalization under Regulation 14(3)(vii) is mostly against successful and efficient plant operations and should be duly supported by documentary evidence like test results etc. by an Independent agency in case of deterioration of asset.

26. The matter has been examined. In the instant case, these assets are being replaced on account of obsolescence /deterioration etc., after expiry of its useful life in consideration of year-wise assets which were put to use. However, there may be some assets which are serviceable even after the expiry of their useful life and should be put to use instead of seeking their replacement in a routine manner. In our view, the petitioner should support its claim either on the basis of the certificate by the OEM or its technical committee to the effect that the subject assets cannot be kept in service on account of its obsolescence or it being beyond economic repair. Though we are allowing capitalization of these assets under Regulation 14(3)(vii) of the 2014 Tariff Regulations, we direct that the

petitioner shall place on record the necessary certificate from the OEM or its technical committee at the time of truing-up of tariff. In view of this, the projected additional capital expenditure of ₹108.35 lakh in 2014-15 and ₹115.00 lakh in 2015-16 with corresponding de-capitalization of 18% (approx.) is allowed. Accordingly, the net projected additional capital expenditure of ₹88.85 lakh (108.35-19.50) in 2014-15 and ₹94.30 lakh (115.00-20.70) in 2015-16 is allowed under the Regulation 14(3)(vii) of the 2014 Tariff Regulations. The petitioner is also directed to furnish the actual gross block of old asset at the time of truing up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

Installation of energy efficient LED lights

27. The petitioner has claimed projected additional capital expenditure of ₹52.00 lakh in 2014-15 and ₹30.00 lakh each during the years 2015-16, 2016-17, 2017-18 and 2018-19 towards the Installation of Energy Efficient LED lights. In justification of the same, the petitioner has submitted that old lights of plant & township area are to be replaced with LED lights which will result in the saving of energy. It has also submitted that LED lights are energy efficient and gives better illumination as compared to conventional lights and therefore the beneficiaries will benefit from any gains on this count.

28. The respondent, UPPCL has submitted that the expenditure may be disallowed as the same may be met from the O&M expenses allowed to the petitioner. It has also stated that the petitioner may be directed to furnish the cost benefit analysis of incurring such expenditure. The respondent, BRPL has submitted that the petitioner intends to seek double benefit by raising the claim on this account and get additional capital expenditure and also enjoy the savings in energy consumption which is required to be shared with the beneficiaries.

29. We have examined the matter. Regulation 8(6) of the 2014 Tariff Regulations provides as under:

"The financial gains by a generating company or the transmission licensee, as the case may be on account of controllable parameters shall be shared between generating company/transmission licensee and the beneficiaries on monthly basis with annual reconciliation. The financial gains computed as per following formulae in case of generating station on account of operational parameters as shown in Clause 2(a)(i) to (iii) of this Regulation shall be shared in the ratio of 60:40 between generating station and beneficiaries.

Net gain=(ECR_N-ECR_A)x scheduled generation"

30. The last proviso to the Regulation 3(3) of the 2014 Tariff Regulations provides as under:

"provided auxiliary power consumption shall not include energy consumed for supply of power to housing colony and other facilities at the generating station and the power consumed for construction works at the generating station."

31. The Commission in its order dated 25.5.2016 in Petition No. 331/GT/2014 had not allowed the capitalisation of this item on the ground that they do not fall within the scope of Regulation 9(2)(vi) of the 2009 Tariff Regulations. It is observed from the justification furnished by the petitioner that the projected additional capital expenditure claimed by the petitioner is for replacement of old lights with LED bulbs for both Plant and Township. According to last proviso to the Regulation 3(3), the auxiliary power consumption shall not include energy consumed for supply of power to housing colony and other facilities i.e Township. It is also noticed that the petitioner has not furnished any bifurcation of the expenditure incurred in respect of plant. In this background, we are not inclined to allow the projected additional capital expenditure of ₹52.00 lakh in 2014-15 and ₹30.00 lakh each during the respective years of the period 2015-19 as claimed by the petitioner for both generating station and township.

Inlet Air Cooling System (GT-2 & GT-3)

32. The petitioner has claimed projected additional capital expenditure of ₹614.00 lakh in 2015-16 towards Inlet Air Cooling system. The petitioner vide affidavit dated 30.11.2015 has submitted that in respect of capitalisation of the scheme "Inlet Air Cooling system", in

case of Gandhar Gas Power Station, the Tribunal vide its judgment dated 25.10.2013 in Appeal No. 71/2012 had remanded the matter to the Commission for reconsideration. It has also submitted that Regulation 8(6) of the 2014 Tariff Regulations provides that any gain over the prescribed operating norms like heat rate, auxiliary power consumption would be shared by the generator with the beneficiaries in the ratio of 60:40. The petitioner has further submitted that the GT Inlet Air Cooling system has been implemented in GT-I and some improvement in output is observed during peak summer, which is available to the beneficiaries. Accordingly, the petitioner has stated that it is equitable & fair to allow the asset for capitalisation, wherein the benefits are already being passed on to the beneficiaries. The petitioner has also pointed out that the matter is under consideration of the Tribunal in Appeal No. 95/2015 in respect of this generating station.

33. The respondent, UPPCL has submitted that the expenditure may be disallowed as no benefit shall accrue to the beneficiaries on account of such expenditure. It has also stated that the petitioner may be directed to furnish the cost benefit analysis of incurring such expenditure. The respondent, BRPL has submitted that the claim of the petitioner under this head was disallowed by the Commission in order dated 23.5.2012 in Petition No. 270/2009 (Auraiya GPS) as the petitioner was not prepared to shared the gains of efficiency with the beneficiaries. Accordingly, it has prayed that the claim of the petitioner may be rejected.

34. We have examined the matter. The Commission in its order dated 15.5.2014 in Petition No. 139/GT/2013 had disallowed the prayer of the petitioner for additional capitalisation of this item/asset for 2011-13 as under:

"*31. The petitioner has claimed expenditure of ₹131.18 lakh (₹75.96 lakh on actual basis during 2011-12 and ₹55.22 lakh on projected basis during 2012-13). The petitioner while justifying the expenditure has submitted that GTs are rated at 88.71 MW at 27^{0}C and 60% humidity. However, it has been stated that Gas Turbines are not able to generate upto rated capacity during summer due to increase in ambient temperature. The petitioner has clarified that when the Gas Turbines generate to their full rated capacity, the additional power will become available to the beneficiaries during* *summer. UPPCL has opposed capitalization of the expenditure and has pleaded that the expenditure should be met by the petitioner through its internal resources. It needs to be noted that the generation capacity of the generating station is not being fully utilized because of shortage of APM gas. As such, the plea of additional generation by the petitioner is purely theoretical and without any gain in actual terms. It is further observed that the benefit of improvement in efficiency is to be retained by the petitioner. Hence, there is no justification to allow capitalization of the expenditure unless the benefit of improved efficiency is passed on to the beneficiaries. As such, there is no justification for installation of inlet air cooling system and the capitalization of the said expenditure is not allowed."*

35. Against the said order, the petitioner had filed review petition (Petition No. 20/RP/2014) on various grounds including the disallowance of GT Inlet Air Cooling system. However, the Commission by order dated 22.12.2014 had rejected the prayer of the petitioner thereby disallowing the capitalisation of this item/asset. The petitioner in this petition has pointed out that in respect of capitalisation of the scheme "Inlet Air Cooling system", in case of Gandhar Gas Power Station, the Tribunal vide its judgment dated 25.10.2013 in Appeal No. 71/2012 had remanded the matter to the Commission for reconsideration. In this regard it is noticed that the issue raised above (in respect of Auraiya GPS) was considered by the Commission in order dated 22.12.2014 in Petition No. 20/RP/2014 and the contentions of the petitioner were rejected by the Commission observing as under.

"11. In the light of the judgment of the Tribunal and the direction in the record of proceedings in Petition No.226/2009, the Commission had directed the petitioner in the present case to submit the details regarding the increase in capacity of the plant after installation of Air Inlet Cooling system and the improvement in Heat Rate /Efficiency on account of the installation of Air Inlet Cooling system for this generating station. However, the petitioner has failed to furnish the said information, while reiterating that its claim should be considered in terms of the Regulation 9(2)(vi) of the 2009 Tariff Regulations. In the absence of the required information, the Commission has considered the claim of the petitioner in accordance with the provisions of Regulation 9(2)(vi) in the light of the observations of the Tribunal in its judgment dated 25.10.2013 in Appeal No. 71/2012 and has come to the conclusion that the expenditure is not necessary as the Gas Turbine is working satisfactorily even without renovation since the date of commercial operation of the generating station. Moreover, for the purpose of obsolescence or non availability of spares, there should be an Air Inlet Cooling system in place. Since the asset is being installed for the first time, the question of obsolescence or non-availability of spares is not a relevant consideration. In the light of the above discussions, we are of the considered view that the installation of Air Inlet Cooling system is neither necessary due to renovation of Gas Turbine nor due to obsolescence or non availability of spares for successful and efficient operation of Gas Turbines in case of Anta GPS. Hence, we find no error in the impugned order dated 15.5.2014 on this ground."

36. It is noticed that the petitioner has also filed appeal before the Tribunal in respect of this generating station in Appeal No. 95/2015 and the same is pending. Considering the

fact that the Commission had rejected the capitalisation of this asset in the previous orders for the reasons stated therein, we find no reason to allow the capitalisation of this asset in terms of the 2014 Tariff Regulations. We direct accordingly. This is however subject to the final outcome of the decision of the Tribunal in the said appeal.

Laying of railway track for inter-changeability of GT transformers (spare/standby)

37. The petitioner has claimed projected additional capital expenditure of ₹76.00 lakh in 2015-16 towards Laying of railway track for inter-changeability of spare/standby GT transformers for the purpose of maintenance. The petitioner has also submitted that the said item/work would further reduce the downtime for maintenance of transformers which in turn would improve the availability of the generating station. Considering the fact that the said asset is required for ease of maintenance and to reduce the downtime for maintenance of transformers, we are of the considered view that the expenditure should be borne from the O&M expenses allowed to the generating station. It is also noticed that the similar claim of the petitioner for capitalization of this asset was considered by the Commission in Petition No. 270/2009 (Auraiya GPS) and the Commission by its order dated 23.5.2012 had rejected the said claim. Accordingly, the claim of the petitioner is not allowed.

Replacement of lube oil / generator cooler – Gas Turbine

38. The petitioner has claimed projected additional capital expenditure of ₹90.00 lakh in 2015-16 for replacement of lube oil / generator cooler – gas turbine. In justification of the same, the petitioner has submitted that the existing Fin type coolers for cooling of Generator & turbine lube oil are more than 25 years old and is not able to achieve the required level of cooling. The respondent, BRPL has submitted that the claim for projected additional capitalization under Regulation 14(3)(vii) of the 2014 Tariff Regulations is mostly against successful and efficient plant operations duly supported by documentary evidence like test results etc.

39. We have examined the matter. In the instant case, that existing Fin type coolers for cooling of Generator & Turbine lube oil which are more than 25 years old are not adequate to achieve the required level of cooling and the replacement of lube oil cooler may help in better performance of the power plant. Admittedly, these assets are being replaced on account of obsolescence /deterioration etc., after expiry of its useful life in consideration of year-wise assets which were put to use. In our view, the petitioner should support its claim either on the basis of the certificate by the OEM or its technical committee to the effect that the subject assets cannot be kept in service on account of its obsolescence or it being beyond economic repair. Though we allow the capitalization of these assets under Regulation 14(3)(vii) of the 2014 Tariff Regulations, as the asset is necessary for successful & efficient operation of the plant, we direct the petitioner to place on record the necessary certificate from the OEM or its technical committee at the time of truing-up of tariff. Accordingly, the projected additional capital expenditure ₹90.00 lakh in 2015-16 with corresponding estimated de-capitalization of 18% is allowed. Based on this, the net projected additional capital expenditure of ₹73.80 lakh (90.00-16.20) in 2015-16, is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations**.** The petitioner is also directed to furnish actual gross block of old asset replaced by new asset at the time of truing up in terms of Regulation 8 of the 2014 Tariff Regulations.

<u>Regulation 14(3(iii)</u>

Construction of D type dwelling units and construction of club facilities for executive children and ladies

40. The petitioner has claimed projected additional capital expenditure of ₹611.00 lakh in 2016-17 towards Construction of "D type" dwelling units and Construction of club facilities for executive children and ladies**.** In justification of the same, the petitioner has submitted that considering safety of persons using these buildings, the construction the

same is required since the existing buildings are found not liveable as per recommendations of the Central Building Research Institute (CBRI) Roorkee.

41. The respondent, UPPCL has submitted that the claim of the petitioner does not meet the requirement of Regulation 14(3)(iii) as Central Building Research Institute (CBRI) Roorkee is not responsible for 'national security / internal security. It has also submitted that no advice or directions from the appropriate Govt. agencies or Statutory authorities responsible for national / internal security have been furnished by the petitioner and thus the claim may be rejected.

42. We have examined the matter. The Commission vide order dated 21.1.2011 in Petition No. 127/2009 while allowed additional capital expenditure for Renovation & Modernization of Gas Turbine during 2004-09 tariff period had extended the life of the generating station upto 31.3.2021. We are of the view that construction of 'D' type quarters is required to accommodate the O&M staff of the generating station and for the efficient operation of plant. Accordingly, the projected additional capital expenditure of ₹611.00 lakh in 2016-17 is allowed under Regulation14 (3) (vii) of the 2014 Tariff Regulations.

43. Based on the above discussions, the projected additional capital expenditure allowed for the period 2014-19 are summarised as under:

Sl. No.	Head of work / Equipment	2014-15	2015-16	2016-17	2017-18	2018-19
1	Phasing out of Halon fire fighting system	164.18				
2	Replacement of underground fire fighting pipelines	179.63				
3	Additional Reservoir	68.09				
4	Additional raw water Reservoir		1551.00			
5	Up-gradation of Process Operating System POS)-30	448.78				
6	Replacement of existing air washer with energy efficient air washer	88.85	94.30			
7	Installation of energy efficient LED lights	0.00	0.00	0.00	0.00	0.00

8	Inlet air cooling system (GT-2 & GT-3)		0.00			
9	Laying of railway track for inter-changeability of GT transformers spares/standby transformers.		0.00			
10	Replacement of lube oil /generator cooler –gas turbine		73.80			
11	Construction of D type dwelling units and construction of club facilities for executive children and ladies.			611.00		
	Total	**949.53**	**1719.10**	**611.00**	**0.00**	**0.00**

44. Accordingly, the capital cost considered for the purpose of tariff for 2014-19 is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	80272.36	81221.89	82940.99	82940.99	82940.99
Admitted Projected additional capital expenditure	949.53	1719.10	611.00	0.00	0.00
Closing capital cost	**81221.89**	**82940.99**	**83551.99**	**83551.99**	**83551.99**
Average Capital Cost	**80747.12**	**82081.44**	**83246.49**	**83551.99**	**83551.99**

Debt-Equity Ratio

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

(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

(i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-equtiy ratio.

Explanation - The *premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*

(2) The generating Company or the transmission licensee shall submit the resolution f the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or

proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt:equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ration based on actual information provided by the generating company or the transmission licensee as the case may be.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

46. Accordingly, gross loan and equity of ₹46958.52 lakh and ₹33313.84 lakh respectively as on 31.3.2014 as allowed in order dated 25.5.2016 in Petition No. 331/GT/2014 has been considered as on 1.4.2014. Further, the admitted actual/ projected additional expenditure has been allocated between debt and equity in the ratio of 70:30.

Return on Equity

47. 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.

48. 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."

49. The petitioner has claimed return on equity considering the base rate of 15.5% and effective tax rate of 23.939%. However, it is observed that in response to the directions of the Commission in Petition No. 290/GT/2014 (tariff of Singrauli STPS for 2014-19), the petitioner vide affidavit dated 23.9.2015 has worked out the effective tax rate as 22.584% based on the actual profit and tax paid for the year 2014-15. During the hearing of the tariff petitions filed by the petitioner for 2014-19, the respondent beneficiaries had raised the issue regarding the computation of effective tax rate. Accordingly, in terms of the direction of the Commission, the petitioner vide affidavit dated 8.1.2016 in Petition No. 280/GT/2014 (pertaining to tariff of Farakka STPS, Stage-III) has filed the Auditor's Certificate regarding the deposit of advance tax on generation business for the year 2014-15 and Income Tax

return for the year 2014-15 (AY 2015-16). We have perused these documents. Though the 2014 Tariff Regulations specify the computation of effective tax rate on the basis of tax paid, we deem it proper to allow the grossing up on MAT rate considering the fact that the matter is being decided and disposed of during 2016-17. Accordingly, for the present, the effective tax rate (MAT) of 20.961% has been considered for the year 2014-15 and 21.342% for the year 2015-16 onwards up to 2018-19 for the purpose of grossing up of the base rate of 15.5%. Based on the above, the rate of ROE works out to 19.610% for FY 2014-15 and 19.705% for FY 2015-16 onwards. This is subject to truing-up in terms of the 2014 Tariff Regulations. Accordingly, return on equity has been worked out as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Notional Equity- Opening	33313.84	33598.70	34114.43	34297.73	34297.73
Addition of Equity due to Additional capital expenditure	284.86	515.73	183.30	0.00	0.00
Normative Equity - Closing	33598.70	34114.43	34297.73	34297.73	34297.73
Average Normative Equity	33456.27	33856.56	34206.08	34297.73	34297.73
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for respective years	20.961%	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax)	19.610%	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)- annualized	**6560.77**	**6671.44**	**6740.31**	**6758.37**	**6758.37**

Interest on loan

50. 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."

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

(a) As stated above gross normative loan amounting to ₹46958.52 lakh has been considered as on 1.4.2014.

(b) Cumulative repayment amounting to ₹30103.80 lakh as on 31.3.2014 as considered in order dated 25.5.2016 in Petition No. 331/GT/2014.

(c) Addition to normative loan on account of additional capital expenditure approved above has been considered.

(d) Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2014-19. Further proportionate adjustment has been made to the repayments corresponding to discharges and reversals of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2014.

(e) In line with the provisions of the above regulation, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2014 along with subsequent additions during the period 2014-19, if any, for the generating station. In case of loans carrying floating rate of interest the rate of interest as provided by the petitioner has been considered for the purpose of tariff.

52. The necessary calculation for interest on loan is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan	46958.52	47623.19	48826.56	49254.26	49254.26
Cumulative repayment of loan upto previous year / period	30103.80	32934.77	35965.88	39206.71	42516.27
Net Loan Opening	16854.72	14688.42	12860.68	10047.55	6737.99
Addition due to Additional capital expenditure	664.67	1203.37	427.70	0.00	0.00
Repayment of loan during the year	2830.97	3031.12	3240.83	3309.56	3309.56
Less: Repayment adjustment on account of de-caps	0.00	0.00	0.00	0.00	0.00
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2014	0.00	0.00	0.00	0.00	0.00
Net Repayment	2830.97	3031.12	3240.83	3309.56	3309.56
Net Loan Closing	14688.42	12860.68	10047.55	6737.99	3428.42
Average Loan	15771.57	13774.55	11454.11	8392.77	5083.21
Weighted Average Rate of Interest on Loan	1.1927%	1.1809%	1.1562%	1.1002%	1.0550%
Interest on Loan	**188.10**	**162.66**	**132.43**	**9.342**	**53.63**

Depreciation

53. 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..”

54. The cumulative depreciation as on 31.3.2014 vide order dated 25.5.2016 in Petition No. 331/GT/2014 works out to ₹52753.77 lakh. The depreciation has been calculated applying spreading over of the balance depreciable value. The balance useful life as on 1.4.2014, as per order dated 25.5.2016 works out to 7 years, and same has been considered for calculation of depreciation. The petitioner is directed to furnish information as regards un-recovered depreciation at the time of truing-up of tariff in terms of

Regulation 8 of the 2014 Tariff Regulations. Necessary calculations in support of depreciation are as shown below:

(₹ In lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Average Capital Cost	80747.12	82081.44	83246.49	83551.99	83551.99
Depreciable value (ex. land) @ 90%	72570.56	73771.44	74819.99	75094.94	75094.94
Balance useful life of the assets	7.00	6.00	5.00	4.00	3.00
Balance depreciable value	19816.79	18186.70	16204.13	13238.25	9928.69
Depreciation (annualized)	**2830.97**	**3031.12**	**3240.83**	**3309.56**	**3309.56**
Cumulative depreciation at the end	55584.74	58615.86	61856.68	65166.25	68475.81
Less: Cumulative Depreciation adjustment on account of un-discharged liabilities	0.00	0.00	0.00	0.00	0.00
Less: Cumulative Depreciation reduction due to de-capitalization	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	**55584.74**	**58615.86**	**61856.68**	**65166.25**	**68475.81**

O&M Expenses

55. Regulation 29 (1) (c) of the 2014 Tariff Regulations provides the year-wise O&M expense norms for the generating station as under:

(₹ in lakh/MW)

2014-15	2015-16	2016-17	2017-18	2018-19
14.67	15.59	16.57	17.61	18.72

56. Based on the above norms, the O&M expenses claimed by the petitioner for the period 2014-19 is worked out and allowed as under:

(₹in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
6151.57	6537.35	6948.30	7384.40	7849.86

Water Charges

57. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

"*29 (2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:*

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization"

58. The petitioner has submitted that as per Regulation 29(2) of the 2014 Tariff Regulations, the water charges and capital spares consumed for thermal generating stations are to be allowed separately. The petitioner has furnished the details in respect of water charges such as type of cooling water system, total water charges as applicable for 2013-14 and has submitted that the water charges may be allowed in tariff based on actual of 2013-14. It has further stated that in accordance with provisions of the Regulations, the petitioner shall furnish the details of actuals for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment. The petitioner has added that it would be relevant to mention that the expenditure of these nature are necessarily to be incurred by the generating station on a continuous basis and accordingly, these need to be provided in the Annual Fixed Charges as well as working capital so as to enable the generator to recover such expenses and pay for them on continuous basis.

59. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check of the details furnished by the petitioner. The details regarding the same furnished by the petitioner is as under:-

Description	Remarks
Type of Plant	Gas
Type of cooling water system	closed cycle
Total water charges in 2013-14	₹61.72 lakh

60. In order to examine the trend of the actual water consumption and rate of water charges, the petitioner was directed vide ROP of the hearing dated 8.10.2015, the details of actual water consumption and water charges during 2009-14. Accordingly, the details of

water consumption and the water charges for last 5 years furnished by the petitioner vide affidavit dated 30.10.2015 is as under:

	Water Consumption [Cu.ft.]	Rate **(₹/ 1000 cu ft).**	Watch & ward Charges (₹)	Total Water charges [₹]
2009-10	104760000	20	1067373	3165954
2010-11	104760000	20	1065386	3160586
2011-12	104760000	20	1254874	3354394
2012-13	104760000	20	1397177	3489377
2013-14	229680000	20	1535393	6172193

61. The water charges claimed by the petitioner for 2014-19 are as follows:

(₹ in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
61.72	65.64	69.81	74.24	78.95

62. The petitioner has claimed water charges for 2014-15 based on the water consumption and rate of water charges for the year 2013-14. The water charges for the years 2015-16 to 2018-19 has been claimed by escalating @ 6.35% the water charges of ₹61.72 lakh in 2014-15 every year.

63. It is observed from the above that the water consumption and water charges in 2013-14 have increased substantially as compared to the years from 2009-10 to 2012-13. In details of water charges furnished vide affidavit dated 30.10.2015 it is observed that additional new reservoir has been created for conservation of water for 3-4 months instead of one month due to closure of canal from one month earlier to now 3-4 months in a year. This has resulted in increase in reservoir capacity from 10 lakh m^3 to 20 lakh m^3 and this has resulted in increase in water consumption in the year 2013-14. The submission of the petitioner that the increase in reservoir capacity has resulted in increase in water consumption of the plant is not acceptable, since irrespective of increase in reservoir capacity, the total consumption in a year shall remain more or less same as in the year during the period from 2009-10 to 2012-13. The water consumption and water charges,

excluding watch and ward charges, are almost the same during the period from 2009-10 to 2012-13. Accordingly, water charges of ₹34.89 lakh paid during the year 2012-13 has been considered for allowing the water charges on projection basis during the period 2014-19 for the purpose of tariff, as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
34.89	34.89	34.89	34.89	34.89

64. The petitioner is directed to furnish the details such as the contracted quantity, allocation of water, the actual water consumed during 2014-19, the basis of calculation of quantity of CW and computation of water charges at the time of truing-up of tariff in terms of the 2014 Tariff Regulations. In addition, the petitioner shall also confirm / clarify as to whether the water charges have been paid on the basis of contracted quantity or on the basis of allocation, and what is the watch and ward charges claimed as a part of water charges.

65. Accordingly, the total O&M expenses including water charges as claimed by the petitioner and allowed for the purpose of tariff is as under:

(₹ in lakh)

Sl. No.		2014-15	2015-16	2016-17	2017-18	2018-19
1	O&M Expenses claimed	6151.57	6537.35	6948.30	7384.40	7849.86
2	**O&M Expenses allowed**	**6151.57**	**6537.35**	**6948.30**	**7384.40**	**7849.86**
3	Water Charges claimed	61.72	65.64	69.81	74.24	78.95
4	**Water Charges allowed**	**34.89**	**34.89**	**34.89**	**34.89**	**34.89**
5	Total O&M Expenses claimed (1 + 3)	6213.29	6602.99	7018.11	7458.64	7928.81
	Total O&M Expenses allowed (2 + 4)	**6186.46**	**6572.24**	**6983.19**	**7419.29**	**7884.75**

Enhancement of O&M expenses

66. The petitioner in the petition has submitted that the salary / wage revision of the employees of the petitioner will be due with effect from 1.1.2017. The O&M expenses in

the instant petition have been claimed by the petitioner based on CERC (Terms & Conditions of Tariff Regulations, 2014). The escalation of 6.35% provided in the O&M would not cover the enhanced employee cost w.e.f 1.1.2017. The petitioner, therefore, craves liberty of the Commission to seek enhancement in the O&M expenses with effect from 1.1.2017 towards the increased salary on account of salary revision due from 1.1.2017, based on the actual payments whenever paid by it. The matter has been examined. On this issue, the Commission in the Statement of Reasons to the 2014 Tariff Regulations has observed as under:

> *"29.26 Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers".*

67. 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.

Capital spares

68. The petitioner has not claimed capital spares on projection basis during the period 2014-19. Accordingly, the same has not been considered in this order. The claim of the petitioner, if any, at the time of truing-up, shall be considered on merits, after prudence check.

Operational Norms

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

Normative Annual Plant Availability Factor (NAPAF)	85.0
Gross Station Heat Rate (kcal/kwh)	2075.00
Auxiliary Power Consumption %	2.5

70. The above operational norms claimed by the petitioner are in terms of the provisions of Regulation 36 of the 2014 Tariff Regulations and is in order. The petitioner has submitted that the Commission in the "Statement of Reasons" for the 2014 Tariff Regulations has specified lower/ tighter Norms for gas stations considering CEA's recommendations and operating data for 2008-13 period, though the petitioner had submitted to consider the operating data for 2012-13 & 2013-14 period when the plant was operating at lower PLF. The petitioner has further submitted that because of lower availability of domestic gas and increase in prices, the generation from gas stations are likely to be even less and the same is likely to result in lower generation from gas stations in the years to come. The petitioner has therefore submitted that in the event the gas stations continue to operate at lower PLF, the Commission may grant liberty to approach the Commission for seeking relaxation of operating norms as per the actual performance during the period 1.4.2014 onwards. In view of the submissions, the petitioner is granted liberty to approach the Commission with appropriate application and the same will be considered in accordance with law.

Interest on Working Capital

71. Sub-section (a) 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 Cost and Energy Charges

72. The petitioner in the petition vide affidavit dated 14.8.2014 has claimed the cost for fuel component in working capital based on price and GCV of APM gas, RLNG and Naphtha for preceding three months from January, 2014 to March, 2014 and the mode of operation between APM gas, RLNG and Naphtha achieved by the generating station during the year 2013-14 which was 82.71%, 4.45% and 12.85% respectively as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Fuel (gas) – 1 month	9524.14	9550.24	9524.14	9524.14	9524.14
Cost of liquid for 15 days	1322.01	1325.63	1322.01	1322.01	1322.01

73. However, the petitioner vide affidavit dated 31.10.2014 has submitted that the mode of operation based on consumption of different fuel during the year 2013-14 has erroneously been submitted as that of the year 2008-09. Accordingly, the petitioner has revised and claimed the cost of fuel component based on the mode of operation between APM gas, RLNG and Naphtha achieved by the generating station during the year 2013-14 which was 99.17%, 0.83% and 0.00% respectively as under:-

(₹ *in lakh*)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Fuel (gas) – 1 month	7268.29	7288.20	7268.29	7268.29	7268.29
Cost of liquid for 15 days	358.11	358.11	358.11	358.11	358.11

74. The petitioner in the said affidavit has further submitted that though the generation on Naphtha is "Zero" during the said period, it has to maintain the Naphtha stock in view of the requirement of beneficiaries for Naphtha based generation. In view of this, the stock of Naphtha has to be maintained and therefore cost of Naphtha stock as actually maintained at the station may be considered while calculating working capital requirement.

75. The fuel components based on the price and GCV of APM gas, RLNG and Naphtha for preceding three months from January, 2014 to March, 2014 and revised mode of operation between APM gas, RLNG and Naphtha achieved by the generating station during the year 2013-14 was 99.17%, 0.83% and 0.00% respectively computed below may be considered for the purpose of tariff for the tariff period 2014-19.

(₹ *in lakh*)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Fuel (gas) for 30 days	7168.72	7168.72	7168.72	7168.72	7168.72
Cost of liquid for 15 days	0.00	0.00	0.00	0.00	0.00

76. It is observed from above that the petitioner has considered 1 month (instead of 30 days) as per Regulation 28(1)(b)(i) of the 2014 Tariff Regulations for computation fuel cost (gas) and the cost of liquid fuel (Naphtha) procured during 2013-14. However, considering the mode of operation as 0.00% on liquid fuel (Naphtha) as per Regulation 28(1)(b)(ii) of the 2014 Tariff Regulations, the cost of liquid for 15 days works out to Nil. The NAPAF of the generating station in terms of the 2014 Tariff Regulation is 85%. It is observed from the computation of energy charges in Form-13 F furnished by the petitioner vide affidavit dated 31.10.2014, the generating station was operated at 100% availability on gas (99.17% on APM gas + 0.83% on RLNG). Accordingly, there is no generation on Naphtha.

The petitioner has claimed an amount of ₹315.58 lakh as liquid fuel stock for 15 days and in justification of the same has submitted that the stock of Naphtha has to be maintained and therefore the cost of Naphtha stock as actually maintained at the generating station may be considered. However, the petitioner has not supported this submission by computation / calculation for arriving at the cost of ₹315.58 lakh of the liquid fuel stock, when there was no generation during the months of January, February and March, 2014. In view of this, the cost of liquid fuel (Naphtha) for 15 days has been considered as zero in the working capital for the purpose of tariff for the period 2014-19.

Energy/ Variable Charges

77. The petitioner vide affidavit dated 14.8.2014 has claimed Energy Charge Rate (ECR) of 375.425 paisa/kWh based on the weighted average price and GCV of domestic gas, RLNG and Naphtha used for operation of the plant during the preceding three months i.e. January, 2014, Febuary-2014 and March, 2014. Based on the norms of operation, GCV & price of domestic Gas, RLNG & Naphtha and mode of operation for the preceding three months are as follows:

	Unit	**2014-15, 2016-17, 2017-18, 2018-19**	**2015-16**
Capacity	MW	419.33	419.33
Fuel		APM+RLNG+Naphtha	
Normative Heat-Rate	kcal/kWh	2075	2075
Auxiliary Power Consumption	%	2.5	2.5
Weighted average price of Gas	/1000SCM	12326.23	12326.23
Weighted average price of LNG	/1000SCM	37936.29	37936.29
Weighted average price of Naphtha	/1000SCM	43180.09	43180.09
Weighted average GCV of gas	Kcal/SCM	9311.71	9311.71
Weighted average GCV of LNG	Kcal/SCM	9406.56	9406.56
Weighted average GCV of Naphtha	Kcal/SCM	11330.24	11330.24
Mode of operation % Gas LNG Naphtha	 82.71 % 4.45 % 12.85 %		
Rate of energy charge ex-bus	**Paisa/kWh**	**375.425**	**375.425**

78. However, the petitioner vide affidavit dated 31.10.2014 has submitted that the mode of operation has erroneously been submitted as that of the year 2008-09 and has

according submitted the revised mode of operation during 2013-14 for the purpose of computing the energy charge. Accordingly, based on this, the revised ECR claimed by the petitioner are as under:

	Unit	**2014-15, 2016-17, 2017-18, 2018-19**	**2015-16**
Capacity	MW	419.33	419.33
Fuel		APM+RLNG+Naphtha	
Normative Heat-Rate	kcal/kWh	2075	2075
Aux. Power Consumption	%	2.5	2.5
Weighted average price of Gas	/1000SCM	12326.23	12326.23
Weighted average price of LNG	/1000SCM	37936.29	37936.29
Weighted average price of Naphtha	/1000SCM	43180.09	43180.09
Weighted average GCV of gas	Kcal/SCM	9311.71	9311.71
Weighted average GCV of LNG	Kcal/SCM	9406.56	9406.56
Weighted average GCV of Naphtha	Kcal/SCM	11330.24	11330.24
Revised Mode of Operation Gas LNG Naphtha	 99.17 % 0.83 % 0.00 %		
Rate of energy charge ex-bus	**Paisa/kWh**	**286.503**	**286.503**

79. Based on the norms of operation, the weighted average price and GCV of APM gas, RLNG and Naphtha used for operation of the plant during the preceding three months i.e. January, 2014, Febuary-2014 and March, 2014 and the mode of operation, the energy charges computed as under is allowed for the purpose of tariff for the period 2014-19.

	Unit	**2014-15, 2016-17, 2017-18, 2018-19**	**2015-16**
Capacity	MW	419.33	419.33
Fuel		APM+RLNG+Naphtha	
Normative Heat-Rate	kcal/kWh	2075	2075
Aux. Power Consumption	%	2.5	2.5
Weighted average price of Gas	/1000SCM	12326.23	12326.23
Weighted average price of LNG	/1000SCM	37936.29	37936.29
Weighted average price of Naphtha	/1000SCM	43180.09	43180.09
Weighted average GCV of gas	Kcal/SCM	9311.71	9311.71
Weighted average GCV of LNG	Kcal/SCM	9406.56	9406.56
Weighted average GCV of Naphtha	Kcal/SCM	11330.24	11330.24
Revised Mode of Operation Gas LNG Naphtha	 99.17 % 0.83 % 0.00 %		
Rate of energy charge ex-bus	**Paisa/kWh**	**286.503**	**286.503**

Energy Charges for two (2) months

80. Energy charges for 2 months on the basis of as billed GCV for the purpose of interest in working capital has been worked out as under:

(₹ *in lakh*)

2014-15	2015-16	2016-17	2017-18	2018-19
14536.57	14576.40	14536.57	14536.57	14536.57

Maintenance spares

81. The petitioner has claimed the following maintenance spares in the working capital:

(₹ *in lakh*)

2014-15	2015-16	2016-17	2017-18	2018-19
1863.99	1980.90	2105.43	2237.59	2378.64

82. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 30% of the operation & maintenance expenses as specified in Regulation 29. Accordingly, the maintenance spares claimed by the petitioner is allowed as under:

(₹ *in lakh*)

2014-15	2015-16	2016-17	2017-18	2018-19
1855.94	1971.67	2094.96	2225.79	2365.42

Receivables

83. Receivables equivalent to two months of capacity charge and energy charges (based on primary fuel only) has been worked out and allowed as under:

(₹ *in lakh*)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - 2 months	14536.57	14576.40	14536.57	14536.57	14536.57
Fixed Charges – 2 months	3242.40	3361.15	3476.27	3562.44	3639.31
Total	**17778.97**	**17937.56**	**18012.84**	**18099.01**	**18175.88**

O & M Expenses (1 month)

84. O&M expenses for 1 month claimed by the petitioner for the purpose of working capital are as under:

(₹ *in lakh*)

2014-15	2015-16	2016-17	2017-18	2018-19
517.77	550.25	584.84	621.55	660.73

85. Based on the O&M expense norms specified by the Commission and in terms of the Commission's order dated 6.10.2015 in Petition No. 186/GT/2014, the O&M expenses for 1 month is allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
515.54	547.69	581.93	618.27	657.06

Rate of interest on working capital

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

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

87. In terms of the above regulations, SBI PLR of 13.50% (Bank rate 10.00 + 350 bps) has been considered for the purpose of calculating interest on working capital. Interest on working capital has been computed as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel Cost (APM & RLNG) - 30 days	7168.72	7168.72	7168.72	7168.72	7168.72
Liquid Fuel (Naptha) Cost - 15 days	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	1855.94	1971.67	2094.96	2225.79	2365.42
O & M expenses - 1 months	515.54	547.69	581.93	618.27	657.06
Receivables - 2 months	17778.97	17937.56	18012.84	18099.01	18175.88
Total Working Capital	**27319.17**	**27625.64**	**27858.45**	**28111.79**	**28367.09**
Rate of interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**3688.09**	**3729.46**	**3760.89**	**3795.09**	**3829.56**

Annual Fixed Charges

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2830.97	3031.12	3240.83	3309.56	3309.56
Interest on Loan	188.10	162.66	132.43	92.34	53.63
Return on Equity	6560.77	6671.44	6740.31	6758.37	6758.37
Interest on Working Capital	3688.09	3729.46	3760.89	3795.09	3829.56
O&M Expenses	6186.46	6572.24	6983.19	7419.29	7884.75
Total	**19454.40**	**20166.92**	**20857.64**	**21374.65**	**21835.86**

Note: (*1) All figures are on annualized basis.(2) All the figures under each head have been rounded. The figure in total column in each year is also rounded. Because of rounding of each figure the total may not be arithmetic sum of individual items in columns.*

Month to Month Energy Charges

89. 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 (gas station):

> *"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 based and liquid fuel based stations*
> *ECR = GHR x LPPF x 100 / {CVPF x (100 – AUX))}*
>
> *Where,*
>
> *AUX = Normative auxiliary energy consumption in percentage.*
>
> *CVPF = Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*
>
> *ECR = Energy charge rate, in Rupees per kWh sent out.*
>
> *GHR = Gross station heat rate, in kCal per kWh.*
>
> *LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month."*

90. The petitioner shall compute and claim the Energy Charges on month to month basis from the beneficiaries based on the above formulae.

91. The petitioner has been directed by the Commission in its order dated 19.2.2016 in Petition No. 33/MP/2014 to introduce helpdesk to attend to the queries of the beneficiaries with regard to the Energy Charges. Accordingly, contentious issues if any, which arise regarding the Energy Charges, should be sorted out with the beneficiaries at the Senior Management level.

Application Fee and Publication Expenses

92. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices (₹498091/-) for application of tariff for the period 2014-19. The petitioner has deposited the filing fees of ₹1845052/- 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 *pro rata,* the filing fees and the expenses incurred on publication of notices for the period 2014-15 directly from the respondents 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.

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

94. Petition No. 287/GT/2014 is disposed of in terms of the above.

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