CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 108/GT/2020

Coram:
Shri P. K Pujari, Chairperson
Shri I. S. Jha, Member
Shri Pravas Kumar Singh, Member

Date of Order: **18th December, 2021**

In the matter of:

Petition for truing-up of tariff of combined cycle gas based Palatana Power Project of ONGC Tripura Power Company Limited (726.6 MW) for the 2014-19 tariff period.

And

In the matter of:

ONGC Tripura Power Company Limited,
6th Floor, 'A' Wing, IFCI Tower, 61, Nehru Place,
New Delhi-110019 **...Petitioner**

Vs

1. Assam Power Distribution Company Limited,
"Bijulee Bhawan", Paltan bazar,
Guwahati-781 001

2. Department of Power,
Government of Arunachal Pradesh,
Vidyut Bhawan,
Itanagar – 791111

3. Department of Power,
Government of Nagaland,
Kohima – 797 001

4. Manipur State Power Distribution Company Limited,
Government of Manipur,
Keishampat,
Imphal – 795001

5. Power and Electricity Department,
Government of Mizoram,
Aizawal, Mizoram – 796001

6. Meghalaya Energy Corporation Limited,
Short Round road, “LUMJINGSHAI”
Shillong – 793001, Meghalya

7. Tripura State Electricity Corporation Limited,
Vidyut Bhawan, North Banamalipur,
Agartala, Tripura – 799001 **...Respondents**

Parties Present:

Shri Arup C. Sarmah, OTPCL
Shri Sanil C. Namboodiripad, OTPCL
Shri Amit C. Dabbas, OTPCL
Shri Sree Narayan, OTPCL
Shri Sajjan Sharma, OTPCL
Shri Avininder Gupta, OTPCL

ORDER

The Petitioner, ONGC Tripura Power Company Limited (in short ‘OTPCL’) has filed this petition for truing-up of tariff of combined cycle gas based Palatana Power Project (726.6 MW) (in short “the generating station”) for the 2014-19 tariff period in terms of Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. The generating station with an installed capacity of 726.6 MW comprises of two Gas Turbine (GT) units of 232.39 MW each and two Steam Turbine (ST) units of 130.91 MW each. The Petitioner is a joint venture of ONGC (Oil and Natural Gas Corporation), IL&FS (through its affiliate IEDCL) and the Government of Tripura with the major shareholding by ONGC (50%), IEDCL (26%), Govt. of Tripura (0.5%) and Residual Equity (23.5%) for setting up the project. The beneficiaries of the North Eastern States have been allocated a capacity of 628 MW from the generating station and the balance capacity of 98 MW is towards merchant sale.

3. COD of Unit-I of the generating station is 4.1.2014 and Unit-II is 24.3.2015. The Commission vide order dated 20.12.2013 in Petition No.199/GT/2013 granted provisional tariff for Block-I of the generating station for the period from anticipated COD of Unit-I (Block-I) to 31.3.2014. Subsequently, by order dated 31.8.2015 in Petition No. 199/GT/2013, the tariff of Unit-I for the period from 4.1.2014 to 31.3.2014 was determined, after allowing the time overrun of 675 days for the said unit. Thereafter, the Commission, after allowing the time overrun of 675 days for Unit-I and 584 days for Unit-II, determined the tariff of the generating station for the 2014-19 tariff period, by order dated 30.3.2017 in Petition No.129/GT/2015. Subsequently, the order dated 30.3.2017 was revised vide corrigendum order dated 3.5.2017 in Petition No.129/GT/2015, after correction of arithmetical/ linkage errors in the calculation of Return on Equity and Interest on loan. Accordingly, the annual fixed charges approved vide order dated 30.3.2017 read with corrigendum order dated 3.5.2017 in Petition No.129/GT/2015 are as under:

(Rs. in lakh)

	2014-15		**2015-16**		**2016-17**	**2017-18**	**2018-19**
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**			
Return on Equity	5954.96	178.10	200.79	16349.43	18159.46	18486.61	18597.96
Interest on Loan	13915.50	587.80	627.19	22090.39	22989.47	21660.51	19997.62
Depreciation	8383.89	334.57	378.38	16147.89	17935.61	18222.28	18295.37
Interest on Working Capital	2372.40	99.69	117.90	4657.78	4952.73	5049.98	5251.25
O&M Expenses	9438.21	424.90	563.24	20051.36	22017.60	23514.60	25119.60
Total	**40064.96**	**1625.07**	**1887.50**	**79296.85**	**86054.87**	**86933.98**	**87261.79**

4. Regulation 8 of the 2014 Tariff Regulations provides as under:

"(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 31.3.2019, 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, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17."

5. In terms of the Regulation 8 of the 2014 Tariff Regulations, the Petitioner has filed this petition for truing-up of tariff for the 2014-19 tariff period. The annual fixed charges claimed by the Petitioner vide affidavit dated 28.10.2019, was subsequently revised vide affidavit dated 6.10.2020 as stated below, after considering the settlement of liquidated damages (LD) with its vendor (M/s BHEL) and revision of the additional capital expenditure has been claimed:

(Rs. in lakh)

	2014-15		**2015-16**		**2016-17**	**2017-18**	**2018-19**
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**			
Depreciation	8316.41	341.77	391.56	15992.70	17004.69	17191.88	17316.59
Interest on Loan	13919.26	598.61	650.10	21873.29	21012.96	18699.94	16655.22
Return on Equity	5954.41	181.18	207.76	16190.83	17146.90	17335.66	17508.38
Interest on Working Capital	2906.64	104.84	120.03	4864.81	5071.46	5656.72	5319.05
O&M Expenses	9759.07	430.10	515.89	20463.63	22208.94	30500.82	25589.85
Total	**40855.79**	**1656.50**	**1885.34**	**79385.25**	**82444.94**	**89385.01**	**82389.10**

6. The Respondent No.1, Assam Power Distribution Company Ltd. (APDCL) has filed its reply vide affidavit dated 8.4.2021 and the Petitioner vide affidavit dated 1.6.2021 has filed its rejoinder to the said reply. This petition along with Petition No.109/GT/2020 was heard on 17.3.2021 through video conferencing and the Commission, after directing the Petitioner to submit certain additional information vide Record of the Proceeding, reserved its order in the petitions. In response, the Petitioner vide affidavit dated 31.5.2021 has filed the additional information, after serving copies on the Respondents. As these petitions could not be disposed of prior to Member Ex-officio (Shri Prakash Mhaske), who was part of the coram demitted office, these petitions were heard again on 29.6.2021, through video conferencing and

the Commission, after hearing the parties, reserved its order in the petitions. Taking into consideration, the submissions of the parties and the documents available on record, we now proceed to examine the claims of the Petitioner in this Petition, as stated in the subsequent paragraphs.

Capital Cost

7. Regulation 9(3) of the 2014 Tariff Regulations provides as follows:

> *"9. Capital Cost:*
> *(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*
> *(a) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15."*

Approved Capital Cost

8. The investment approval of the generating station was accorded by the Board of Directors of the Petitioner Company in its 23rd meeting on 18.12.2008 for Rs.342930.00 lakh, including IDC, FC, FERV and hedging cost of Rs.28491.00 lakh. Thereafter, the Board of Directors of the Petitioner Company in its 50th meeting on 11.2.2014 revised the cost from Rs.342930.00 lakh to Rs.404700.00 lakh including IDC, FC, FERV and hedging cost of Rs.86893.00 lakh.

9. The capital cost claimed by the Petitioner in Form I(I) of the petition is as follows:

(Rs. in lakh)

	2014-15		**2015-16**	**2016-17**	**2017-18**	**2018-19**
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**				
Opening Capital Cost	172470.03	307135.63	317835.63	336690.42	339440.26	344133.42
Add: Addition during the year / period	0.00	0.00	4203.80	1819.92	3385.51	110.27
Less: De-capitalization during the year / period	0.00	0.00	0.00	0.00	0.00	0.00
Less: Reversal during	0.00	0.00	0.00	0.00	0.00	0.00

	2014-15		2015-16	2016-17	2017-18	2018-19
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**				
the year / period						
Add: Discharges during the year / period*	0.00	10700.00	14650.98	929.92	1307.65	155.48
Total Additional Capital Expenditure	0.00	10700.00	18854.78	2749.84	4693.16	265.75
Closing Capital Cost	**172470.03**	**317835.63**	**336690.42**	**339440.26**	**344133.42**	**344399.17**
Average Capital Cost	172470.03	312485.63	327263.03	338065.34	341786.84	344266.29

Admitted Capital Cost

10. By order dated 30.3.2017 in Petition No.129/GT/2015, the capital cost approved for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15		2015-16	2016-17	2017-18	2018-19
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**				
Opening Capital Cost	172470.03	307135.63	307135.63	353741.63	362250.63	366640.63
Add: Additional Capital Expenditure allowed	0.00	0.00	11636.00	8509.00	4390.00	0.00
Add: Liability Discharged	0.00	0.00	34970.00	0.00	0.00	0.00
Closing Capital Cost	**172470.03**	**307135.63**	**353741.63**	**362250.63**	**366640.63**	**366640.63**

Additional Capital Expenditure

11. Regulations 14(1) and 14(3) of the 2014 Tariff Regulations provide as follows:

"14 (1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

(v) Change in law or compliance of any existing law:
Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff

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;"

12. The Commission in the order dated 30.3.2017 in Petition No. 129/GT/2015 had allowed additional capital expenditure of Rs.24535.00 lakh for the 2014-19 tariff period. The details of the additional capital expenditure allowed in order dated 30.3.2017 in Petition No. 129/GT/2015 are as follows:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Land	0.00	0.00	0.00	0.00	0.00
Plant and Machinery	0.00	5441.00	2190.00	0.00	0.00
Civil	0.00	2725.00	5923.00	4390.00	0.00
Right to use land	0.00	0.00	0.00	0.00	0.00
Computers & Software	0.00	1457.00	154.00	0.00	0.00
Vehicle	0.00	0.00	0.00	0.00	0.00
Office Equipment's	0.00	2013.00	242.00	0.00	0.00
Furniture & fixtures	0.00	0.00	0.00	0.00	0.00
Furniture and fitting (Leasehold improvements)	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**11636.00**	**8509.00**	**4390.00**	**0.00**

13. The Petitioner, as per Form 9A, has claimed total additional capital expenditure of Rs.10834.47 lakh during the 2014-19 tariff period. The Petitioner has also submitted that the additional capital expenditure claimed are on accrual basis and includes un-discharged liabilities. Accordingly, the additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period is as under:

(Rs. in lakh)

Sl. No	**Head of Work /Equipment**	**Regulation**	**2014-15**		**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
			1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**					
A	**Works already allowed by order dated 31.3.2017**								
2	Plant and Machinery		0.00	0.00	2666.80	1942.59	751.44	0.00	5360.82
3	Civil works	14(1)	0.00	0.00	820.17	0.00	558.84	0.00	1379.01
4	Right to use Land		0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Computers and software	14(1)	0.00	0.00	982.50	491.96	0.00	0.00	1474.47
6	Vehicle	14(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Office Equipment	14(1) & 14 (3)	0.00	0.00	84.44	0.00	2399.20	106.73	2590.38
8	Furniture & Fixture		0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Furniture and Fittings (Leasehold Improvements)	14(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (A)		**0.00**	**0.00**	**4553.91**	**2434.55**	**3709.48**	**106.73**	**10804.68**
B	**New Claims**								
1	Online T/F Monitoring System	14(3) (vii)	0.00	0.00	0.00	0.00	0.00	77.27	77.27
2	Hazardous Waste Storage Building	14(3) (vii)	0.00	0.00	14.75	0.00	0.00	0.00	14.75
3	GST implementation on OSIP ERP system	14(3) (vii)	0.00	0.00	0.00	0.00	11.51	0.00	11.51
	Sub-total (B)		0.00	0.00	14.75	0.00	11.51	77.27	103.53
C	**Sub-total (C) = (A) + (B)**		**0.00**	**0.00**	**4568.65**	**2434.55**	**3720.99**	**184.00**	**10908.20**
D	De-capitalization of Spares (part of capital cost) (D)		0.00	0.00	0.00	0.00	0.00	73.73	73.73
E	**Total additional capital expenditure (claimed) (E) = (C) - (D)**		**0.00**	**0.00**	**4568.65**	**2434.55**	**3720.99**	**110.27**	**10834.47**

Additional capital expenditure allowed in terms of order dated 30.3.2017 in Petition No. 129/GT/2015

14. The Commission while determining the tariff of the generating station for the 2014-19 tariff period by order dated 30.3.2017 in Petition No. 129/GT/2015, had directed the Petitioner to furnish the details of additional capital expenditure indicating the year-wise, item-wise and asset-wise break-up of the claim in accordance with the relevant provisions of the 2014 Tariff Regulations at the time of truing-up of tariff. The Petitioner has, however, not furnished the item-wise or asset-wise break-up of the additional capital expenditure claimed. In response to ROP of the hearing dated 17.3.2021, the Petitioner has furnished Form-5 and has clarified that the total actual additional capital expenditure of Rs.10834.47 lakh claimed is lower than the additional capital expenditure of Rs.24535.00 lakh already admitted vide order dated 30.3.2017 in Petition No.129/GT/2015. It has further submitted that the sub-clauses of Regulation 14(3) of the 2014 Tariff Regulations are only in respect of the additional capital expenditure claimed towards new items. We proceed to examine the claims of the Petitioner in terms of the provisions of the 2014 Tariff Regulations, as stated in the subsequent paragraphs.

Plant and Machinery

15. Against the total projected additional capital expenditure of Rs.7631.00 lakh allowed during 2014-19 period (i.e. Rs.5441 lakh in 2015-16 and Rs.2190 lakh in 2016-17) for Plant & Machinery vide order dated 30.3.2017 in Petition No. 129/GT/2015, the Petitioner has claimed total additional capital expenditure of Rs.5360.82 lakh (Rs.2666.80 lakh in 2015-16, Rs.1942.59 lakh in 2016-17 and Rs.751.44 lakh in 2017-18) in terms of Regulation 14(1) of the 2014 Tariff Regulations. As the total actual additional capital expenditure claimed by the Petitioner

is within the cut-off date of the generating station and is lesser than the additional capital expenditure already admitted by order dated 30.3.2017 in Petition No. 129/GT/2015, the actual additional capital expenditure of Rs.5360.82 lakh claimed by the Petitioner is allowed in terms of Regulation 14(1)(iv) of the 2014 Tariff Regulations.

Civil works

16. Against the total projected additional capital expenditure of Rs.13038.00 lakh allowed during 2014-19 period (Rs.2725 lakh in 2015-16, Rs.5923 lakh in 2016-17 and Rs.4390 lakh in 2017-18) for Civil Works under Regulation 14(1) of the 2014 Tariff Regulations by order dated 30.3.2017 in Petition No. 129/GT/2015, the Petitioner has claimed total actual additional capital expenditure of Rs.1379.01 lakh (Rs.820.17 lakh in 2015-16 and Rs.558.84 lakh in 2017-18) for Civil works under Regulation 14(1) of the 2014 Tariff Regulations.

17. The Respondent, APDCL has submitted that the Petitioner has failed to furnish the year-wise, item-wise and the asset-wise break-up of the claim, in accordance with the provisions of the 2014 Tariff Regulations, as directed by order dated 30.3.2017 in Petition No. 129/GT/2015. The Respondent has, however, submitted that the additional capital expenditure may be allowed as per provisions of the 2014 Tariff Regulations. In addition, the Respondent APDCL has submitted that the Petitioner's request regarding extension of time for completion of works allowed towards additional capital expenditure up to 31.3.2020 is not in accordance with the 2014 Tariff Regulations and, therefore, the same may not be entertained. In response, the Petitioner has submitted that the deviation in the actual additional capital expenditure is primarily on account of additional time required for the completion of civil works. The Petitioner has submitted that though it had expected to capitalize all the works within

the cut-off date of the generating station, but due to various factors beyond its control, the same had not materialised. The Petitioner has further submitted that the reasons for delay in the construction activities were furnished in Petition No.98/MP/2018 filed by it for extension of cut-off date from 31.3.2018 to 31.3.2020, in respect of the Civil Works related to the residential township of the generating station.

18. The matter has been considered. Considering the fact that the total actual additional capital expenditure of Rs.1379.01 lakh claimed by the Petitioner, is within the cut-off date of the generating station and is lesser than the additional capital expenditure already admitted by order dated 30.3.2017 in Petition No. 129/GT/2015, the claim of the Petitioner is allowed under Regulation 14(1)(iv) of the 2014 Tariff Regulations.

Computer and Software

19. Against the total projected additional capital expenditure of Rs.1611.00 lakh allowed during 2014-19 period (Rs.1457 lakh in 2015-16 and Rs.1543 lakh in 2016-17) for Computer & Software under Regulation 14(1) of the 2014 Tariff Regulations by order dated 30.3.2017 in Petition No. 129/GT/2015, the Petitioner has claimed total actual additional capital expenditure of Rs.1474.47 lakh (Rs.982.50 lakh in 2015-16 and Rs.491.96 lakh in 2016-17) for Computer & Software under Regulation 14(1) of the 2014 Tariff Regulations.

20. The matter has been considered. As the actual additional capital expenditure of Rs.1474.47 lakh incurred by the Petitioner for the period 2014-19, is within the cut-off date of the generating station and is lesser than the additional capital expenditure

already admitted by order dated 30.3.2017 in Petition No. 129/GT/2015, the claim of the Petitioner is allowed under Regulation 14(1)(iv) of the 2014 Tariff Regulations.

Office Equipment

21. Against the total projected additional capital expenditure of Rs.2255.00 lakh allowed during 2014-19 period (Rs.2013.00 lakh in 2015-16 and Rs.242.00 lakh in 2016-17) for Office Equipment under Regulation 14(1) of the 2014 Tariff Regulations by order dated 30.3.2017 in Petition No. 129/GT/2015, the Petitioner has claimed total actual additional capital expenditure of Rs.2590.38 lakh (Rs.84.44 lakh in 2015-16, Rs.2399.20 lakh in 2017-18 and Rs.106.73 lakh in 2018-19) under Regulation 14(1) of the 2014 Tariff Regulations. Out of the total actual additional capital expenditure of Rs.2590.38 lakh claimed, the claim of the Petitioner for Rs.84.44 lakh in 2015-16 and Rs.2399.20 lakh in 2017-18 for the said asset is allowed under Regulation 14(1)(iv) of the 2014 Tariff Regulations, as the same is within the cut-off date of the generating station. However, the additional capital expenditure of Rs.106.73 lakh claimed for the said asset in 2018-19 has not been allowed, as the same is beyond the cut-off date of the generating station and for which no justification has been furnished by the Petitioner.

Additional *capital expenditure claimed for New Items*

Hazardous Waste Storage Building

22. The Petitioner has claimed actual additional capital expenditure of Rs.14.75 lakh in 2015-16 towards hazardous waste storage building under Regulation 14(3) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional capital expenditure is necessary for storing and handling hazardous wastes (like used oil/lube oil, used oil filters, oil contaminated waste, battery waste

etc.) in an environmentally sound manner. It has further submitted that hazardous waste cannot be kept in open condition, as per provisions of Rule 5 of the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 prescribed under the Environment (Protection) Act, 1986.

23. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to furnish detailed information, with relevant provisions of Regulation 14(3) of 2014 Tariff Regulations, in Form 9A, along with detailed technical justification, justifying the need for such additional capital expenditure, beyond the original scope of work, duly supported by documentary evidence, including the reason as to why such additional capital expenditure was not envisaged within the original scope of work of the Project. In response, the Petitioner has clarified that the actual additional capital expenditure claimed is in terms of Regulation 14(3)(vii) of the 2014 Tariff Regulations and is lesser than the additional capital expenditure approved by order dated 30.3.2017 in Petition No. 129/GT/2015. The Petitioner has also furnished technical details along with Ministry of Environment, Forest and Climate Change (MoEF&CC) notification dated 24.9.2008, in support of the said claim.

24. Rule 4 and Rule 5 of the 'Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008' notified on 24.9.2008, provide for handling of hazardous wastes and responsibilities of the occupier. It is observed that the Investment Approval of the generating station was accorded by the Board of Directors of the Petitioner Company in its 23rd meeting on 18.12.2008 and Unit-I of the generating station had achieved COD of on 4.1.2014 i.e., six (6) years after the date of the said notification. As the additional capital expenditure claimed by the Petitioner is in terms of the said Rules and is within the cut-off date of the generating station, the

claim of the Petitioner for actual additional capital expenditure of Rs.14.75 lakh in 2015-16 towards hazardous waste storage building is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations.

GST implementation on OSIP ERP System

25. The Petitioner has claimed actual additional capital expenditure of Rs.11.51 lakh under Regulation 14(3) of the 2014 Tariff Regulations towards GST implementation on OSIP ERP system in 2017-18. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to submit detailed information with relevant provisions of Regulation 14(3) of the 2014 Tariff Regulations, in Form 9A, in respect of the additional capital expenditure claimed beyond the original scope of work along with detailed technical justification, justifying the need for such additional capital expenditure, duly supported by documentary evidence, including the reason as to why such additional capital expenditure was not envisaged within the original scope of work of the project. In justification for the claim, the Petitioner has submitted that the additional capital expenditure has been claimed under Regulation 14(3)(vii) of the 2014 Tariff Regulations and the same has been incurred by the Petitioner due to modifications in its ERP system, on account of the implementation of GST with effect from 1.7.2017. The Petitioner has also furnished the recommendations of the Procurement Committee along with a copy of work order dated 9.6.2017 in support of the claim. Keeping in view that the Petitioner had undertaken appropriate changes in ERP system on account of implementation of GST from 1.7.2017 and the expenditure incurred for the said work contributes to the efficient operation of the generating station, the actual additional capital expenditure for Rs.11.51 lakh claimed by the Petitioner is allowed under Regulation 14(3)(vii) of the 2014 Tariff Regulations.

Online Transformer Monitoring System

26. The Petitioner has claimed actual additional capital expenditure of Rs.77.27 lakh towards Online Transformer Monitoring System (OTMS) in 2018-19, under Regulation 14(3) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that OTMS is required due to ageing of Plant and that non-availability of OTMS will paralyze the respective block, in case of fault in transformers. It has also submitted that OTMS enables the Petitioner to make timely decisions to improve reliability/ availability of the plant, reduce maintenance expenses, proactively manage performance and delay or decrease the capital expenditure.

27. The Respondent, APDCL has submitted that the Petitioner should have discussed the need for this expenditure with NERPC and the beneficiary States in the NERPC forum. It has further submitted that the additional capital expenditure has been incurred under new heads which were not approved by the Commission and, therefore, the claim may be allowed only after prudence check. In response, the Petitioner has clarified that it has furnished the required details and that the total expenses incurred under this head is very less and shall not cause any significant tariff burden on the beneficiary states.

28. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to submit detailed information with relevant provisions of Regulation 14(3) of 2014 Tariff Regulations, in Form 9A, in respect of the additional capital expenditure which is beyond the original scope of work along with detailed technical justification, justifying the need to incur such additional capital expenditure beyond the original scope of work, duly supported by documentary evidence including as to why such additional capital expenditure was not envisaged within the original scope of work. In

justification, the Petitioner has submitted that at the time of commissioning of the project, online transformer monitoring system technology was not available. Thereafter due to ageing of the plant, the generating station required system strengthening equipment and, therefore, the Petitioner has installed OTMS in 2018-19, which empowers the Plant managers with real time information and to make timely decisions to improve the reliability/ availability of the plant, reduce maintenance expenses, pro-actively manage performance and delay or decrease capital expenditure. As the reliability requirement of these transformers are very high, it was considered necessary to install online total transformer monitoring system, as part of the reliability improvement program. The Petitioner has submitted that it had implemented total transformer monitoring system for two critical transformers in block 1, namely Steam Turbine Generator Transformer (STGT) and Gas Turbine Generator Transformer (GTGT) and this system will monitor the critical operational parameters of each transformer, on real time basis, and the same can be observed at local panels as well in a dedicated Desktop PC at main control room for the purpose of monitoring. It has also submitted that critical operational parameters monitored by the system involves Dissolved Gas Analysis for 9 gasses (DGA Report), Breakdown Voltage (BDV) of insulating Oil, Top, Partial Discharge of HV Bushing and Main Tank, Bottom Tank and OLTC Oil Temperature, Winding and Bushing Tan Delta and Capacitance value, Oil Moisture (ppm) Content value. The Petitioner has added that the system is equipped for storing all data for future analysis when required and in case any fault is detected in the aforesaid transformer, the system will generate alarm (both at local panel and in the control room PC) for undertaking corrective actions on the same fault. It has stated that web server based solution with GSM communication is added to enable the Petitioner to view real time trends/ values etc., from anywhere, using just a PC with internet connection. In addition, the Petitioner has submitted that the actual additional capital expenditure claimed is in terms of Regulation 14(3)(vii) of the 2014 Tariff Regulations. The Petitioner has furnished the technical specifications, copy of minutes of meeting between the Petitioner and OEM supplier of OTMS system (Navitus Controls Equipment Private Limited) on 4.9.2018, in support of the claim under this head.

29. The submissions have been considered. We note that the generating station is located in a remote place and several logistic issues are associated with it. As submitted by the Petitioner, the installation of OTMS will help the Petitioner to make timely decisions to improve the reliability/ availability of the plant, reduce maintenance expenses and proactively manage performance. Also, the installation of the said asset will help the Petitioner to avoid damage to the transformer and consequent outages in future. In this background and since the additional capital expenditure incurred is for the efficient operation of the generating station, the actual additional capital expenditure claimed by the Petitioner is allowed in terms of Regulation 14(3)(vii) of the 2014 Tariff Regulations.

De-capitalization

30. The Petitioner has claimed de-capitalization of Rs.73.73 lakh towards Plant and Machinery in 2018-19. It is observed that the Petitioner has not provided any item-wise details of de-capitalisation in Form 9Bi. However, it is observed from Form 9A that de-capitalization has been carried out towards Plant and Machinery in 2018-19. Therefore, the de-capitalization claimed by the Petitioner is allowed.

Discharge of liabilities

31. The Petitioner has claimed discharge of liabilities in Form 9E as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
10700.00	14650.98	929.92	1307.65	155.48	27744.03

32. As regards discharge of liabilities of Rs.10700.00 lakh in 2014-15, the Petitioner has submitted that the Commission had disallowed Rs.20185.03 lakh (equivalent to IDC of Rs.18718.41 lakh and IEDC of Rs.1466.62 lakh) vide order dated 30.3.2017 in Petition No. 129/GT/2015, on account of delay in the commissioning of the generating station and had granted liberty to the Petitioner observing that "*LD/Insurance proceeds recovered for the period of time overrun disallowed shall be retained by the Petitioner*". The Petitioner has stated that while part of the outstanding liabilities has been discharged after COD, the liabilities to the extent of disallowance in capital cost i.e. Rs.20185.03 lakh has not been discharged. The Petitioner has further submitted that liabilities to the extent of Liquidated Damages (LD)/ Insurance proceeds, recovered for the period of time overrun disallowed may be considered as liabilities discharged, against LD amount retained. The Petitioner has vide affidavit dated 5.10.2020 submitted that M/s Bharat Heavy Electricals Limited (BHEL) vide its letter dated 27.5.2020, has accepted the final LD settlement amount of Rs.10700.00 lakh. In view of the same, the Petitioner has revised the deemed discharge of liabilities from Rs.20185.03 lakh to 10700.00 lakh as against the final LD settlement in 2014-15.

33. The Respondent, APDCL has submitted that the deemed discharge of Rs.10700.00 lakh is totally misconceived and devoid of merits. The Respondent has further submitted that the settlement of LD for Rs.10700.00 lakh (as per letter of M/s BHEL) should be deducted from the claim of Rs.20185.03 lakh and thus, the

maximum un-discharged liability would be Rs.9485 lakh. In response, the Petitioner has clarified that it has claimed LD in accordance with the 2014 Tariff Regulations and that there will only be book entry without any cash flow. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to submit Form 18 – 'Liability Flow Statement' along with its reconciliation with the audited accounts. In justification, the Petitioner has submitted audited Form 9E.

34. The submissions have been considered. It is observed that the Commission in its order dated 30.3.2017 in Petition No. 129/GT/2015 had not adjusted LD, keeping in view that LD recovery under various packages were pending. By the said order dated 30.3.2017, the Petitioner was directed to place on record the details of settlement of LD with contractors at the time of truing up of tariff. Accordingly, the Petitioner has claimed the recovery of LD amount of Rs.10700.00 lakh in 2014-15 as 'deemed discharge' of liability. As LD settlement with M/s BHEL had taken place in 2019-20, the treatment of discharge of liability of Rs.10700.00 lakh (claimed in 2014-15) will be carried out in the year of settlement i.e., 2019-20. However, the claim of the Petitioner towards discharge of liabilities during the period 2015-19 is found to be in order and is, therefore, allowed. Accordingly, the discharge of liabilities allowed during the 2014-19 tariff period is summarised as follows:

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
0.00	14650.98	929.92	1307.65	155.48	17044.04

Reconciliation of the actual additional capital expenditure

35. The reconciliation statement of the actual additional capital expenditure for the 2014-19 tariff period with books of accounts, as furnished by the Petitioner is as under:

(Rs. in lakh)

Sl. No		2014-15	2015-16	2016-17	2017-18	2018-19
1	Closing Gross Block	317835.63	336690.42	339440.26	344133.42	344399.17
2	Less: Opening Gross Block	307135.63	317835.63	336690.42	339440.26	344133.42
3	**Total additions as per books**	**10700.00**	**18854.78**	**2749.84**	**4693.16**	**265.75**
4	Less: Additions pertaining to other stages (give stage wise break-up)	NA				
5	**Net additions pertaining to station/unit/stage**					
6	Less: Exclusions (items not allowable / not claimed)					
7	**Net additional capital expenditure claimed**	**10700.00**	**18854.78**	**2749.84**	**4693.16**	**265.75**

36. It is noticed from the above that there is no variation in the actual additional capital expenditure claimed by the Petitioner in Form 9(A), Form 9(C) and that as per books of accounts.

37. Accordingly, the additional capital expenditure allowed for the 2014-19 tariff period is summarised as under:

(Rs. in lakh)

Sl. No.	Head of Work/ Equipment		2014-15		2015-16	2016-17	2017-18	2018-19	Total
			1.4.2014 to 23.3.2015	24.3.2015 to 31.3.2015					
A	**Allowed Works**								
1	Land	Claimed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Plant and machinery	Claimed	0.00	0.00	2666.80	1942.59	751.44	0.00	5360.82
		Allowed	0.00	0.00	2666.80	1942.59	751.44	0.00	5360.82
3	Civil	Claimed	0.00	0.00	820.17	0.00	558.84	0.00	1379.01
		Allowed	0.00	0.00	820.17	0.00	558.84	0.00	1379.01
4	Right to use Land	Claimed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Computers and software	Claimed	0.00	0.00	982.50	491.96	0.00	0.00	1474.47
		Allowed	0.00	0.00	982.50	491.96	0.00	0.00	1474.47
6	Vehicle	Claimed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Office Equipment	Claimed	0.00	0.00	84.44	0.00	2399.20	106.73	2590.38
		Allowed	0.00	0.00	84.44	0.00	2399.20	0.00	2483.64
8	Furniture & Fixture	Claimed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Furniture and Fittings (Leasehold Improvements)	Claimed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Allowed	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (A)	Claimed	**0.00**	**0.00**	**4553.91**	**2434.55**	**3709.48**	**106.73**	**10804.68**

Sl. No.	Head of Work/ Equipment		2014-15		2015-16	2016-17	2017-18	2018-19	Total
			1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**					
		Allowed	**0.00**	**0.00**	**4553.91**	**2434.55**	**3709.48**	**0.00**	**10697.94**
B	**New Claims**								
1	Online T/F Monitoring System (OTMS)	Claimed	0.00	0.00	0.00	0.00	0.00	77.27	77.27
		Allowed	0.00	0.00	0.00	0.00	0.00	77.27	77.27
2	Hazardous Waste Storage Building	Claimed	0.00	0.00	14.75	0.00	0.00	0.00	14.75
		Allowed	0.00	0.00	14.75	0.00	0.00	0.00	14.75
3	GST implementation on OSIP ERP System	Claimed	0.00	0.00	0.00	0.00	11.51	0.00	11.51
		Allowed	0.00	0.00	0.00	0.00	11.51	0.00	11.51
	Sub Total (B)	Claimed	**0.00**	**0.00**	**14.75**	**0.00**	**11.51**	**77.27**	**103.53**
		Allowed	**0.00**	**0.00**	**14.75**	**0.00**	**11.51**	**77.27**	**103.53**
C	**Sub Total (C) = (A) + (B)**	**Claimed**	**0.00**	**0.00**	**4568.65**	**2434.55**	**3720.99**	**184.00**	**10908.20**
		Allowed	**0.00**	**0.00**	**4568.65**	**2434.55**	**3720.99**	**77.27**	**10801.47**
D	Un-discharged Liabilities (D) (in (C) as per Form 9E)		0.00	0.00	364.85	614.64	335.49	0.00	**1314.98**
E	**Total Additional capital expenditure (Allowed) (E) = (D) - (C)**	**Claimed**	**0.00**	**0.00**	**4203.80**	**1819.92**	**3385.50**	**184.00**	**9593.22**
		Allowed	**0.00**	**0.00**	**4203.80**	**1819.92**	**3385.50**	**77.27**	**9486.49**
F	De-capitalization of Spares (part of capital cost) (F)		0.00	0.00	0.00	0.00	0.00	73.73	73.73
G	Liabilities Discharged (G)		0.00	0.00	14650.98	929.92	1307.65	155.48	17044.04
H	**Net Additional Capital Expenditure Allowed (H) = (D) + (E)**	**Claimed**	**0.00**	**0.00**	**18854.78**	**2749.84**	**4693.15**	**265.75**	**26563.53**
		Allowed	**0.00**	**0.00**	**18854.78**	**2749.84**	**4693.15**	**159.02**	**26456.79**

Initial Spares

38. In order dated 30.3.2017 in Petition No. 129/GT/2015, the Commission had observed that the Petitioner has not furnished the Plant & Machinery cost separately for the generating station. Therefore, in the absence of the actual Plant & Machinery cost, the Initial spares along with the Plant & Machinery cost had been computed in terms of Regulation 13(b)(iv) of the 2014 Tariff Regulations as under:

(Rs. in lakh)

		As per order dated 30.3.2017 in Petition No. 129/GT/2015
A	Audited project cost as on CoD of Unit-II (24.3.2015)	371240.00
B	Amount of IDC, FC & Hedging cost included in "A" above	74906.00
C	Amount of IEDC included in "A" above	6251.00
D	Land Cost in "A" above	1740.00
E	Civil work in "A" above	71804.00
F	Amount of liability in "A" above	34970.00
G	Plant and Machinery cost (A-B-C-D-E-F)	181569.00
H	Plant and Machinery in Additional Capital Expenditure up to cut-off date	11497.00
I	Actual Plant & Machinery as on cut-off date including initial spares (G+H)	193066.00
J	**Initial Spares included**	**16314.00**
K	Plant & Machinery as on cut-off date excluding initial spares (I-J)	176752.00
L	Plant & Machinery as on cut-off date including initial spares (K/96%)	184116.67
M	Initial Spares allowed (L-K)	7364.67
N	**Initial Spares disallowed (J-M)**	**8949.33**

39. Accordingly, by order dated 30.3.2017 in Petition No. 129/GT/2015, the capital cost of Unit-I & Unit-II (combined) as on 24.3.2015, was determined, after adjustment of the cost of initial spares and pro-rata reduction of establishment cost as on COD of Block-II/ Unit-II of the generating station as under:

(Rs. in lakh)

Actual capital expenditure of Block-I & Block-II as on COD of station (24.3.2015)	
Capital cost including IDC & FC, FERV & hedging cost	317551.59
Less: Pro-rata establishment cost due to period of time overrun not allowed	1466.62
Less: Difference in cost of initial spares after restriction	8949.33
Capital cost including IDC, FC, FERV & Hedging cost	**307135.64**

40. The Commission vide ROP of the hearing dated 17.3.2021, directed the Petitioner to furnish the treatment of the disallowed initial spares in order dated 30.3.2017 in Petition No. 129/GT/2015 amounting to Rs.8949.33 lakh, in audited accounts and to furnish proof that the same has not been claimed as a part of additional capitalization. In justification, the Petitioner vide affidavit dated 31.5.2021 has submitted that the initial spares disallowed were capitalized in audited accounts

and Rs.8354.67 lakh has been claimed as a part of capital spares consumed and not as additional capital expenditure. The Petitioner has also furnished the auditor certificate in support of capital spares consumed.

41. It is observed that the Petitioner has furnished the audited accounts till 2018-19 and has claimed the actual Plant and Machinery cost in Form 9A and Form 11. The actual additional capital expenditure claimed by the Petitioner towards Plant and Machinery cost up to the cut-off date is as under:

(Rs. in lakh)

As on CoD of Unit-II (24.3.2015) (as approved by order dated 30.3.2017 in Petition No. 129/GT/2015)	**2015-16**	**2016-17**	**2017-18**
181569.00	2681.54	1942.59	762.95

42. Based on the actual Plant and Machinery cost up to the cut-off date, the initial spares allowed by order dated 30.3.2017, is revised as under:

(Rs. in lakh)

		Initial spares
A	Plant and Machinery cost as on CoD of Unit-II (24.3.2015)	181569.00
B	Actual additional capital expenditure in Plant & Machinery up to cut off date	5387.09
C	Actual Plant & Machinery as on cut-off date including initial spares (A+B)	186956.09
D	Initial Spares included in "C" (also per order dated 30.3.2017 in Petition No. 129/GT/2015)	16314.00
E	Plant & Machinery as on cut-off date excluding initial spares (C-D)	170642.09
F	Plant & Machinery as on cut-off date including initial spares (E/96%)	177752.18
G	Initial Spares allowed (4% of F) up to the cut-off date.	7110.09
H	**Initial Spares disallowed (D-G)**	**9203.91**

Capital cost for the 2014-19 tariff period

43. Accordingly, the capital cost of Unit-I & II (combined) as on 24.3.2015, on account of disallowance of initial spares, is revised as under:

(Rs. in lakh)

	Capital cost as on 24.3.2015 approved in Petition No. 129/GT/2015	**Capital cost (revised) as on 24.3.2015**
Capital cost including IDC & FC, FERV & hedging cost	317551.59	317551.59

	Capital cost as on 24.3.2015 approved in Petition No. 129/GT/2015	Capital cost (revised) as on 24.3.2015
Less: Pro-rata establishment cost due to period of time overrun not allowed	1466.62	1466.62
Less: Difference in the cost of initial spares	8949.33	9203.91
Capital cost including IDC, FC, FERV & Hedging cost	**307135.64**	**306881.06**

44. In view of the above adjustment of initial spares, based on the Plant and Machinery cost, the capital cost allowed as on 1.4.2014 and 23.4.2015 respectively for Unit-I and Unit-I & II (combined) is as follows:

(Rs. in lakh)

	Unit-I (as on 1.4.2014) (as approved in order dated 30.3.2017 in Petition No. 129/GT/2015)	Unit-I & Unit-II combined (as on 24.3.2015) Capital cost (revised) as on 24.3.2015
Capital cost including IDC, FC, FERV & Hedging cost	172470.03	306881.06

45. Based on the above discussions, the capital cost allowed for the 2014-19 tariff period is as follows:

(Rs. in lakh)

	2014-15		2015-16	2016-17	2017-18	2018-19
	1.4.2014 to 23.3.2015	24.3.2015 to 31.3.2015				
Opening capital cost	172470.03	306881.06	306881.06	325735.84	328485.68	333178.83
Add: Addition during the year / period	0.00	0.00	4203.80	1819.92	3385.50	77.27
Less: De-capitalization during the year / period	0.00	0.00	0.00	0.00	0.00	73.73
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year / period	0.00	0.00	14650.98	929.92	1307.65	155.48
Closing Gross Block	172470.03	306881.06	325735.84	328485.68	333178.83	333337.85
Average Gross Block	**172470.03**	**306881.06**	**316308.45**	**327110.76**	**330832.26**	**333258.34**

Debt-Equity Ratio

46. Regulation 19 of the 2014 Tariff Regulations provides as follows:

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

Provided that

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

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 of 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 utilization 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 the 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 ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

47. The gross loan and equity amounting to Rs.141422.59 lakh and Rs.31047.44 lakh, respectively as on 31.3.2014 was considered in order dated 31.8.2015 in Petition No. 199/GT/2013. The same have been considered as gross loan and equity as on 1.4.2014. The debt-equity ratio of 86.51:13.49 as on 24.3.2015 i.e. as on COD of the Unit-II (Station COD) as allowed vide order dated 30.3.2017 in Petition No. 129/GT/2015 has been considered. It is observed that in order dated 30.3.2017 in Petition No. 129/GT/2015, the revision of debt-equity ratio was allowed due to conversion of Share Application money, pending allotment into equity share capital, with effect from the date of such conversion i.e. 10.4.2015, in exercise of the power to relax under Regulation 54 of the 2014 Tariff Regulations. The debt-equity ratio allowed

as on 10.4.2015 is 74.26:25.74 and the same has been considered. The Petitioner has claimed debt-equity ratio of 74.26:25:74, as approved by order dated 30.3.2017 in Petition No. 129/GT/2015 for additional capital expenditure during the 2014-19 tariff period. Accordingly, the same debt-equity ratio has been considered for admitted additional capital expenditure during the period 2015-19.

Return on Equity

48. Regulation 24 of the 2014 Tariff Regulations provides as follows:

"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
(v) Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
(vi) 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:
(vii) additional RoE shall not be admissible for transmission line having length of less than 50 kilometer."

49. Regulation 25 of the 2014 Tariff Regulations provides as follows:

"25. 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.

Illustration.

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess: Rate of return on equity = 15.50/(1-0.2096) = 19.610%

(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:

(a)Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.
(b)Estimated Advance Tax for the year on above is Rs 240 crore.
(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore/Rs 1000 Crore = 24%
(d)Rate of return on equity = 15.50/ (1-0.24) = 20.395%

(3) The generating company or the transmission licensee as the case may be shall true up the grosse- 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."

50. The base rate of return on equity as allowed by order dated 30.3.2017 in Petition No. 129/GT/2015 is to be grossed up with the effective tax rate of the respective financial years. Also, in term of Regulation 25(3) of the 2014 Tariff Regulations, the generating company 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 2014-19 tariff period, on actual gross income of any financial year.

51. We are conscious that the entities covered under MAT regime are paying Income Tax as per MAT rate notified for respective financial year under the IT Act, 1961, which is levied on the book profit of the entity computed as per the Section 115JB of the IT Act, 1961. Section 115J B(2) defines book profit as net profit in the statement of Profit & Loss prepared in accordance with Schedule-III of the Companies Act, 2013, subject to some additions and deductions as mentioned in the IT Act, 1961. Since the Petitioner has been paying income tax on income computed under Section 115JB of the IT Act, 1961 as per the MAT rates of the respective financial year, the notified MAT rate for respective financial year shall be considered as effective tax rate for the purpose of grossing up of Return on Equity for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations. Interest imposed on any additional income tax demand as per the Assessment Order of the Income Tax authorities shall be considered on actual payment. However, penalty (for default on the part of the assesse) if any, imposed shall not be taken into account for the purpose of grossing up of rate of return on equity. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered, or refunded to beneficiaries on year to year basis.

52. The Petitioner has claimed Return on Equity after grossing up the Return on Equity of 15.50%, with the effective tax rates (based on MAT rates) for each year as per Regulation 24 of the 2014 Tariff regulations. Return on Equity has been trued up

on the basis of the MAT rate applicable during the respective years of the tariff period and is, accordingly, allowed as under:

(Rs. in lakh)

	2014-15		2015-16	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 3 1.3.2016**
Notional Equity- Opening (A)	31047.44	41398.25	41398.25	78991.18
Addition of Equity due to additional capital expenditure (B)	0.00	0.00	0.00	4853.22
Normative Equity - Closing (C) = (A) + (B)	31047.44	41398.25	41398.25	83844.41
Average Normative Equity (D) = (A+C)/2	31047.44	41398.25	41398.25	81417.79
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years (F)	20.961%	20.961%	21.342%	21.342%
Rate of Return on Equity (Pre-Tax) (G) = (E)/(1-F)	19.610%	19.610%	19.705%	19.705%
Return on Equity (Pre-Tax) (Prorated) (H) = (D)*(G)*(No. of days in operation/No. of days in year)	5954.96	177.93	200.59	15648.87
Return on Equity (Pre-Tax) (annualized) (H) = (D)*(G)	**6088.40**	**8118.20**	**8157.53**	**16043.38**

(Rs. in lakh)

	2016-17	2017-18	2018-19
Notional Equity- Opening (A)	83844.41	84552.21	85760.23
Addition of Equity due to additional capital expenditure (B)	707.81	1208.02	40.93
Normative Equity - Closing (C) = (A) + (B)	84552.21	85760.23	85801.16
Average Normative Equity (D) = (A+C)/2	84198.31	85156.22	85780.70
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%
Effective Tax Rate for respective years (F)	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (G) = (E)/(1-F)	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) (Prorated) (H) = (D)*(G)*(No. of days in operation/No. of days in year)	**16591.28**	**16780.03**	**16948.55**
Return on Equity (Pre Tax) (annualized) (H) = (D)*(G)	**16591.28**	**16780.03**	**16948.55**

Interest on Loan

53. Regulation 26 of the 2014 Tariff Regulations provides as follows:

"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 Decapitalization 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 up to the date of de-capitalization of such asset

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be

considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

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

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

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

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

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing 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."

54. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to submit the following:

(i) Reconciliation of the figures mentioned in Form 13 - Calculation of Weighted Average Rate of Interest on actual loans, with the audited accounts of respective financial years.

(ii) Documentary evidence with respect to the benefit of refinancing, including the rate of interest and cost of refinancing as claimed in the worksheet 'refinance benefit'.

55. In response, the Petitioner has furnished the weighted average rate of interest (WAROI) and auditor certificate in support of benefit claimed by refinancing of loans. It

is observed that the Petitioner, in Form 13A has claimed interest on loan by applying WAROI of 10.50%, 10.00%, 9.57%, 8.70% and 8.37% for the years 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 respectively along with the computation of WAROI for the said years in Form 13. However, the computation of WAROI for 2014-15 has not been furnished. It is observed that in Petition No. 129/GT/2015, the Petitioner vide affidavit dated 18.3.2016 had submitted that the rate of interest charged by State Bank of India was pegged at 10.50% during the year 2014-15. We observe that rate of interest of 10.50% is as per the SBI loan agreement and, hence, WAROI of 10.50% was allowed by order dated 30.3.2017. Accordingly, in line with the decision in order dated 30.3.2017 in Petition No. 129/GT/2015, WAROI of 10.50% has been allowed in 2014-15 in this order. Interest on loan has been computed as follows:

(i) The gross normative loan amounting to Rs.141422.59 lakh has been considered as on 1.4.2014;

(ii) Cumulative repayment amounting to Rs.1732.25 lakh as on 31.3.2014 as considered in order dated 31.8.2015 in Petition No. 199/GT/2013 has been considered as on 1.4.2014;

(iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to be Rs.139690.34 lakh;

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

(v) Depreciation allowed has been considered as repayment of normative loan during the respective years of the 2019-24 tariff period;

56. The Petitioner has submitted that it has refinanced loan through State Bank of India in January 2014 and has added its 1/3rd share of the benefit of re-financing to the interest on loans, as per Form-13A. This has not been considered while computing interest on loan, as per Regulation 26 of the 2014 Tariff Regulations. Accordingly, Interest on loan has been allowed as under:

(Rs in lakh)

	2014-15		2015-16	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
Gross opening loan (A)	141422.59	265482.80	265482.80	227889.87
Cumulative repayment of loan up to previous year / period (B)	1732.25	10048.26	10379.85	10754.65
Net Opening loan (C) = (A) - (B)	139690.34	255434.54	255102.95	217135.22
Addition due to additional capital expenditure (D)	0.00	0.00	0.00	14001.56
Repayment of loan during the period (E)	8316.01	331.58	374.80	15421.50
Less: Repayment adjustment on account of de-capitalization (F)	0.00	0.00	0.00	0.00
Add: Repayment adjustment on account of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	0.00	0.00	0.00	0.00
Repayment of loan during the year (H) = (E) - (F) + (H)	8316.01	331.58	374.80	15421.50
Net Closing loan (I) =(C) +(D) -(H)	131374.33	255102.95	254728.15	215715.28
Average Loan (J) = (C+I)/2	135532.33	255268.75	254915.55	216425.25
Weighted Average Rate of Interest of loan (K)	10.5000%	10.5000%	10.0000%	10.0000%
Interest on Loan (L) = (J)*(K)	**13918.98**	**587.47**	**626.84**	**21110.33**

(Rs in lakh)

	2016-17	2017-18	2018-19
Gross opening loan (A)	241891.44	243933.46	247418.60
Cumulative repayment of loan up to previous year / period (B)	26176.15	42585.20	59215.02
Net Opening loan (C) = (A) - (B)	215715.28	201348.27	188203.59
Addition due to additional capital expenditure (D)	2042.03	3485.14	118.09
Repayment of loan during the period (E)	16409.05	16629.82	16762.13
Less: Repayment adjustment on account of de-capitalization (F)	0.00	0.00	17.00
Add: Repayment adjustment on account of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	0.00	0.00	0.00
Repayment of loan during the year (H) = (E) - (F) +(H)	16409.05	16629.82	16745.13
Net Closing loan (I) =(C) +(D) -(H)	201348.27	188203.59	171576.54
Average Loan (J) = (C+I)/2	208531.77	194775.93	179890.06
Weighted Average Rate of Interest of loan (K)	9.5700%	8.7000%	8.3700%
Interest on loan (L) = (J)*(K)	**19956.49**	**16945.51**	**15056.80**

Depreciation

57. Regulation 27 of the 2014 Tariff Regulations provides as follows:

"27. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including

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

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

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

> *Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:*
>
> *Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.*

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

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

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

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

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project

(five years before the useful life) alongwith justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

58. Cumulative depreciation amounting to Rs.1732.25 lakh as on 1.4.2014, as approved by order dated 30.3.2017 in Petition No. 129/GT/2015, has been considered for the purpose of tariff. The weighted average rate of depreciation, calculated in terms of the Regulation 27 of the 2014 Tariff Regulations, has been considered for the calculation of depreciation as under:

(Rs. in lakh)

	2014-15		**2015-16**	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
Average capital cost (A)	172470.03	306881.06	306881.06	316308.45
Value of freehold land included above (B)	716.19	716.19	716.19	961.85
Value of software and IT equipment included in average capital cost (C)	154.17	154.17	154.17	160.43
Average Capital cost, net of freehold land and IT Equipment (D)=(A-B-C)	171599.67	306010.70	306010.70	315186.17
Aggregated Depreciable Value (E)= (D*90%) + (C)	154593.88	275563.80	275563.80	283827.98
Remaining aggregate depreciable value at the beginning of the year (F) = (E) - (N)	152861.63	265515.54	265183.95	273073.33
No. of completed years at the beginning of the year (G)	0.61		0.63	
Balance useful life at the beginning of the year (H) = 25 - (G)	24.39		24.37	
Weighted Average Rate of Depreciation (WAROD) (I)	4.930%	4.930%	4.967%	4.998%
Combined Depreciation during the year/ period (prorated) (J) = (A) * (I)*(No. of days in operation/No. of days in year)	8316.01	331.58	374.80	15421.50
Combined Depreciation during the year/ period (annualized) (K) = (A) * (I)	8502.37	15128.52	15242.00	15810.28
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (L) = (J) + (N)	10048.26	10379.85	10754.65	26176.15
Less: Depreciation adjustment on	0.00	0.00	0.00	0.00

	2014-15		2015-16	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
account of de-capitalization (M)				
Cumulative depreciation at the end of the year (N) = (L) - (M)	**10048.26**	**10379.85**	**10754.65**	**26176.15**

(Rs. in lakh)

	2016-17	**2017-18**	**2018-19**
Average capital cost (A)	327110.76	330832.26	333258.34
Value of freehold land included above (B)	961.85	961.85	961.85
Value of software and IT equipment included in average capital cost (C)	1142.93	1634.89	1634.89
Average Capital cost, net of freehold land and IT Equipment (D)=(A-B-C)	325005.98	328235.51	330661.60
Aggregated Depreciable Value (E)= (D*90%) + (C)	293648.31	297046.86	299230.33
Remaining aggregate depreciable value at the beginning of the year (F) = (E) - (N)	267472.16	254461.66	240015.32
No. of completed years at the beginning of the year (G)	1.63	2.63	3.63
Balance useful life at the beginning of the year (H) = 25 - (G)	23.37	22.37	21.37
Weighted Average Rate of Depreciation (WAROD) (I)	**5.016%**	**5.027%**	**5.030%**
Combined Depreciation during the year/ period (Prorated) (J) = (A) * (I)*(No. of days in operation/No. of days in year)	16409.05	16629.82	16762.13
Combined Depreciation during the year/ period (Annualized) (K) = (A) * (I)	16409.05	16629.82	16762.13
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (L) = (J) + (N)	42585.20	59215.02	75977.15
Less: Depreciation adjustment on account of de-capitalization (M)	0.00	0.00	17.00
Cumulative depreciation at the end of the year (N) = (L) - (M)	**42585.20**	**59215.02**	**75960.15**

<u>Operation & Maintenance Expenses</u>

59. Regulation 29(1)(c) of the 2014 Tariff Regulations provides as under:

(1) Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(c) Open Cycle Gas Turbine/Combined Cycle generating stations:

(in Rs. lakh/MW)

Year	Gas Turbine/ Combined Cycle generating stations other than small gas turbine power generating stations	Small gas turbine power generating stations	Agartala GPS	Advance F Class Machines
2014-15	14.67	33.43	41.32	26.55

2015-16	15.59	35.70	44.14	28.36
2016-17	16.57	38.13	47.14	30.29
2017-18	17.61	40.73	50.35	32.35
2018-19	18.72	43.50	53.78	34.56

60. The O&M expenses claimed by the Petitioner are as follows:

(Rs. in lakh)

	2014-15	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**				
Installed Capacity (MW)	363.30	726.60	726.60	726.60	726.60	726.60
Normative O&M expenses (in Rs lakh / MW)	26.55	26.55	28.36	30.29	32.35	34.56
Total O&M expenses claimed	**9434.20**	**422.82**	**20606.38**	**22008.71**	**23505.51**	**25111.30**

61. As the O&M expenses claimed by the Petitioner is in accordance with Regulation 29(1)(c) of the 2014 Tariff Regulations, the same is allowed.

Water Charges

62. Regulation 29(2) of the 2014 Tariff Regulations provides as follows:

"*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:

63. The Commission vide RoP of the hearing dated 17.3.2021 directed the Petitioner to submit the year-wise computation of actual water charges claimed, duly audited, including the actual quantity of water consumed; the rate (Rs./m^3) charged by the State authorities; any other charges included in the water charges, in addition to the charges calculated based on the above; and Auditor certificate to the effect that such other charges were booked under the head 'water charges' during the 2014-19 tariff period. In justification, the Petitioner has submitted the auditor certificate in

support of water charges claimed. The details furnished by the Petitioner in support of water charges paid during the 2014-19 tariff period is as follows:

	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Total water charges	(in Rs. lakh)	4.53	4.65	5.32	5.05	5.16
Water charges payable to TSPCB	(in Rs.)	425465.40	438129.70	502459.20	477628.10	486865.90
Water Cess Payable to MoEF&CC	(in Rs.)	27120.00	26768.85	29102.70	27580.20	29126.95
Actual quantity of reviver water consumed	(in m^3)	4254654	4381297	5024592	4776281	4868659
Rate charged by TSPCB as per the demand received from TSPCB	(in Rs./m^3)	0.10	0.10	0.10	0.10	0.10

64. The water charges allowed as per first proviso to Regulation 29(2) of the 2014 Tariff Regulations is as under:

(Rs. in lakh)

2014-15		2015-16		2016-17	2017-18	2018-19
1.4.2014 to 23.3.2015	24.3.2015 to 31.3.2015	1.4.2015 to 9.4.2015	10.4.2015 to 31.3.2016			
4.43	0.10	0.11	4.53	5.32	5.05	5.16

<u>Capital Spares</u>

65. The second proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as follows:

> *"29(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:*
>
> *xxxxx:*
>
> *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 capitalization or consumption of stores and spares and renovation and modernization."*

66. The details of capital spares claimed by the Petitioner are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
327.62	368.49	194.91	6990.26	473.39	8354.67

67. The Petitioner has claimed total capital spares for Rs.8354.67 lakh during the 2014-19 tariff period but has not furnished any details or justification in support of the same. The Commission vide ROP of the hearing dated 17.3.2021 had directed the Petitioner to (i) furnish the details and treatment of disallowed initial spares in order dated 30.3.2017 in Petition No. 129/GT/2015 for Rs.8949.33 lakh in audited accounts, (ii) to furnish proof that the same is not claimed as a part of additional capitalization for the 2014-19 tariff period and (iii) to provide audited statement with respect to the consumption of capital spares and its justification as per the second proviso to Regulation 29(2) of the 2014 Tariff Regulations. In justification, the Petitioner has clarified that the disallowed spares were capitalized in audited accounts of the Petitioner, but the fixed charges have been claimed only on the capital cost allowed by order dated 30.3.2017 in Petition No.129/GT/2015 and has not been claimed as additional capitalization in the present petition. The Petitioner has further submitted that the entire amount of Rs.8354.67 lakh has been consumed as capital spares and has also furnished the auditor certificate along with details and justification of major spares. The Petitioner has, therefore, prayed that capital spares claimed may be allowed considering the remote plant location and the challenges faced in urgent procurement of such spares.

68. The matter has been considered. It is observed that the Commission vide its order dated 30.3.2017 in Petition No. 129/GT/2015 had allowed initial spares for Rs.7364.67 lakh (which has been revised to Rs.7110.09 lakh in this order as

discussed in paragraph 42 above) and had disallowed Rs.8949.33 lakh out of total initial spares of Rs. 16314.00 lakh as summarized below:

(Rs. in lakh)

Initial Spares	Allowed in order dated 30.3.2017 in Petition No. 129/GT/2015	Initial spares revised
Allowed	7364.67	7110.09
Disallowed	8949.33	9203.91
Total	**16314.00**	**16314.00**

69. It is further observed that the Petitioner, in Form 17 of the petition, has submitted as under:

(Rs. in lakh)

Details of capital spares and expenses approved by order dated 31.3.2017		Additional capital spares consumed during 2014-19	Total
Capital spares	7364.67	8354.67	15719.34

70. It is evident from the above table that the total capital spares of Rs.15719.34 lakh claimed by the Petitioner, includes capital spares of Rs.7364.67 lakh, which is actually the initial spares allowed by order dated 30.3.2017 in Petition No. 129/GT/2015 (as also discussed in paragraph 38 above). Therefore, it appears that the initial spares of Rs.8949.33 lakh, disallowed as on cut-off date i.e., 31.3.2018 by order dated 30.3.2017 in Petition No.129/GT/2015 have been claimed by the Petitioner, as capital spares consumed (i.e. Rs.8354.67 lakh) during the 2014-19 tariff period.

71. The Petitioner has claimed capital spares amounting to Rs.327.62 lakh in 2014-15, which is also the year of COD (24.3.2015) of the generating station. Therefore, the capital spares consumed by the Petitioner, till COD of the generating station has not been allowed.

72. The Petitioner has also claimed total capital spares for Rs.7553.66 lakh in 2015-18 (i.e. Rs.368.49 lakh in 2015-16, Rs.194.91 lakh in 2016-17 and Rs.6990.26

lakh in 2017-18). The Petitioner, has, however, not furnished any justification for the same. However, it is noticed from the documents furnished by the Petitioner that the damaged spare parts of machinery were sent to the M/s Triveni, the sub vendor of M/s BHEL (OEM), on returnable basis, for re-use in future. In addition, it is observed from the Petitioner's affidavit dated 29.5.2021 (submitted as Annexure 8 of the combined affidavit in this petition and Petition No.109/GT/2020) that the First Hot Gas Path Inspection (HGPI-1) was carried out in August 2019 as per schedule and in terms of the recommendations of the then OEM i.e. GE, the spares were consumed based on factored fired hours (FFH). The capital spares claimed to have been consumed by the Petitioner during the period 2017-18 have actually been consumed during the year 2019-20. In view of this, the capital spares as claimed by the Petitioner up to the cut-off date (31.3.2018) has not been allowed. The capital spares consumed during 2019-20 will be dealt with in accordance with the relevant regulations.

73. As regards the capital spares for Rs.473.39 lakh claimed in 2018-19, it is observed that these capital spares form part of the capital cost of the project and the Petitioner has been recovering tariff since their procurement. Therefore, the claim of the Petitioner has not been allowed. Accordingly, only those capital spares consumed in 2018-19, which do not form part of the capital cost of the project, are being considered in this order, on prudence check.

74. It is pertinent to mention that the term 'capital spares' has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardised practices in respect of

earmarking and treatment of capital spares, the value of capital spares exceeding Rs.1 (one) lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the petition, has been considered for the purpose of tariff. Based on this, the details of the allowed capital spares considered for 2014-19 tariff period is summarized as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares claimed by Petitioner(A)	327.62	368.49	194.91	6990.26	473.39
Capital Spares (part of capital cost) claimed (B)	327.62	368.49	194.91	6990.26	0.00
Capital Spares (not part of capital cost) claimed (C) = (B) – (A)	0.00	0.00	0.00	0.00	473.39
Value of spares below Rs.1(one) lakh disallowed on individual basis (D)	0.00	0.00	0.00	0.00	236.61
Net total value of capital spares considered (E) = (D) - (C)	0.00	0.00	0.00	0.00	236.78

75. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	0.00	0.00	0.00	0.00	236.78
Salvage value @ 10% (B)	0.00	0.00	0.00	0.00	23.68
Net cost of capital spares allowed (C) = (A)- (B)	**0.00**	**0.00**	**0.00**	**0.00**	**213.10**

76. The O&M expenses approved for the 2014-19 tariff period is as follows:

(Rs. in lakh)

		2014-15		2015-16
		1.4.2014 23.3.2015	**24.3.2015 31.3.2015**	
Installed Capacity (MW) (A)		363.30	726.60	726.60
O&M expenses as per Regulation 29(1)(c) in Rs. lakh / MW (B)		26.55	26.55	28.36
Total O&M expenses (C) = (A)*(B)	Claimed	9645.62	19291.23	20606.38
	Allowed	9434.20	422.82	20606.38
Water Charges (D)	Claimed	4.43	0.10	4.65
	Allowed	4.43	0.10	4.65
Capital Spares consumed (E)	Claimed	320.44	7.18	368.49
	Allowed	0.00	0.00	0.00
Total O&M Expenses (including water charges and capital spares consumed) (F) = (C+D+E)	Claimed	9970.48	19298.51	20979.51
	Allowed	**9438.63**	**422.92**	**20611.02**

(Rs. in lakh)

		2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		726.60	726.60	726.60
O&M Expenses as per Regulation 29(1)(c) in Rs. lakh / MW (B)		30.29	32.35	34.56
Total O&M Expenses (C) = (A)*(B)	Claimed	22008.71	23505.51	25111.30
	Allowed	22008.71	23505.51	25111.30
Water Charges (D)	Claimed	5.32	5.05	5.16
	Allowed	5.32	5.05	5.16
Capital Spares consumed (E)	Claimed	194.91	6990.26	473.39
	Allowed	0.00	0.00	213.10
Total O&M expenses (including water charges and capital spares consumed) (F) = (C+D+E)	Claimed	22208.94	30500.82	25589.85
	Allowed	**22014.03**	**23510.56**	**25329.55**

Interest on Working Capital

77. Regulation 28 of the 2014 Tariff Regulations provides as follows:

"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) 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;

(iii) Maintenance spares @ 30% of operation and maintenance expenses specified in Regulation 29;

(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; and

(v) Operation and maintenance expenses for one month

"(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period

(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:

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency."

Fuel Cost and Energy Charges in Working Capital

78. Regulation 28(1)(b)(i) of the 2014 Tariff Regulations provides for Fuel cost for 30 days corresponding to the normative annual Plant Availability Factor. The Fuel cost for 30 days for computation of interest on working capital as considered by the Petitioner is as under:

(Rs. per SCM)

2014-15	2015-16	2016-17	2017-18	2018-19
6043.06	6043.05	6043.05	6043.05	6043.05

79. The fuel components based on the price and GCV of gas from January 2015 to March 2015 as submitted by the Petitioner in Form 15 for the purpose of tariff for the 2014-19 tariff period is as follows:

Unit-I

(Rs. per SCM)

	January, 2015	February, 2015	March, 2015	Weighted Average
Weighted Average Price of gas	6041.83	6044.07	6043.28	**6043.06**
Weighted Average GCV of gas as received	9218.97	9222.24	9221.24	**9220.82**

Unit-I & Unit-II (combined)

(Rs. per SCM)

	January, 2015	February, 2015	March, 2015	Weighted Average
Weighted Average Price of gas	6041.83	6044.08	6043.23	**6043.05**
Weighted Average GCV of gas as received	9218.97	9222.24	9221.24	**9220.82**

80. It is observed that the Petitioner, for computing the fuel cost for 30 days has considered the average price of gas from January 2015 to March 2015, instead of considering the weighted average price of gas for the said three months. The weighted average price of gas for Unit-I and Unit-I & Unit-II (combined), on the basis of price for the preceding three months (from January 2015 to March 2015) is worked out as Rs.6042.97 per SCM and Rs.6043.03 per 1000 SCM respectively. Accordingly, the fuel cost (gas) for 30 days, as per Regulation 28(1)(b)(i) of the 2014 Tariff Regulations, is allowed as follows:

(Rs. in lakh)

2014-15		2015-16	
1.4.2014 to 3.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
2556.19	4571.04	4571.04	4571.04

(Rs. in lakh)

2016-17	2017-18	2018-19	
		1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
4571.04	4571.04	4571.04	5112.35

Energy Charges

81. Regulation 30(6)(b) of the 2014 Tariff Regulations provides for computation and payment of Energy Charge for thermal generating stations as follows:

> *"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=(a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal-based stations
(b) Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel-based stations.
(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.
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 litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)
SFC = Normative Specific fuel oil consumption, in ml per kWh.
LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month
Provided that energy charge rate for a gas/liquid fuel based station shall be adjusted for open cycle operation based on certification of Member Secretary of respective Regional Power Committee for the open cycle operation during the month.

82. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 119.137 paise/kWh for the generating station, based on the weighted average price and GCV of domestic gas used for operation of the plant during the preceding three months i.e., from January 2015 to March 2015. However, Regulation 28(2) of the 2014 Tariff Regulations provides for consideration of landed cost of fuel and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined. Therefore, the allowable ECR, based on the operational norms as specified under the 2014 Regulations is worked out as follows:

	1.4.2014 to 23.3.2015	**24.3.2015 to 30.9.2018**	**1.10.2018 to 31.3.2019**
Normative Heat Rate (For CC Operation) (Kcal/kWh)	1754.24	1754.24	1754.24
Normative Availability Factor (%)	85.00%	76.00%	85.00%
Aux. Power Consumption (%)	3.50%	3.50%	3.50%
Weighted Average Rate of Fuel (Rs./1000 SCM)	6042.97	6043.03	6043.03

	1.4.2014 to 23.3.2015	24.3.2015 to 30.9.2018	1.10.2018 to 31.3.2019
Weighted Average GCV of Fuel (kCal/SCM)	9220.67	9220.79	9220.79
Rate of Energy- CC (Paise/kWh)	114.968	114.967	114.967
Rate of Energy- Ex Bus-CC (Paise/kWh)	119.138	119.137	119.137
Rate of Energy- Ex Bus-CC (Rs./kWh)	1.191	1.191	1.191

83. Energy charges for 2 months as a part of working capital have been calculated on the following basis:

a) ECR of Rs.1.191/kWh as calculated above (rounded off to three places as per Regulation 30(6) of 2014 Regulations.

b) Two months ex-bus energy corresponding to installed capacity of 363.30 MW, normative availability of 85% for 1.4.2014 to 23.3.2015 and 1.10.2018 to 31.3.2019 and 76% for 24.3.2015 to 30.9.2018, along with AEC of 3.50% which works out as:

i) 2553.24 MUs {363.30x0.85x24x357x0.9650/1000} for the period 1.4.2014 to 23.3.2015.

ii) 102.31 MUs {726.60x0.76x24x8x0.9650/1000} for the period 24.3.2015 to 31.3.2015.

iii) 115.10 MUs {726.60x0.76x24x9x0.9650/1000} for the period 1.4.2015 to 9.4.2015. (leap year)

iv) 4565.79 MUs {726.60x0.76x24x357x0.9650/1000} for the period 10.4.2015 to 31.3.2016. (leap year)

v) 4668.10 MUs {726.60x0.76x24x365x0.9650/1000} for the year 2016-17 and 2017-18.

vi) 2340.45 MUs {726.60x0.76x24x183x0.9650/1000} for the period 1.4.2018 to 30.9.2018.

vii) 2603.30 MUs {726.60x0.76x24x182x0.9650/1000} for the period 1.10.2018 to 31.3.2019.

Liquid fuel stock for ½ month

84. The Petitioner has not used any liquid fuel in the generation of electricity and, hence, the same has not been considered.

Working capital for O & M Expenses (1 month)

85. O&M expenses for 1 month claimed by the Petitioner in Form-13B is shown in the table as follows:

(Rs. in lakh)

2014-15		**2015-16**	
1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
831.48	1635.28	1748.29	1748.29

(Rs. in lakh)

2016-17	**2017-18**	**2018-19**	
		1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
1850.74	2541.74	2132.49	2132.49

86. Regulation 28(1)(b)(v) of the 2014 Tariff Regulations provides for O&M expenses for one month. Accordingly, the O&M expenses (1 month) of working capital allowed are as under:

(Rs. in lakh)

2014-15		**2015-16**	
1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
804.18	1607.98	1717.59	1717.59

(Rs. in lakh)

2016-17	**2017-18**	**2018-19**	
		1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
1834.50	1959.21	2110.80	2110.80

Working capital for Maintenance spares

87. The Petitioner in Form-13B has claimed maintenance spares in working capital as under:

(Rs. in lakh)

2014-15		**2015-16**	
1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**

2014-15		2015-16	
1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
2993.33	5887.01	6293.85	6293.85

(Rs. in lakh)

2016-17	2017-18	2018-19	
		1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
6662.68	9150.25	7676.95	7676.95

88. Regulation 28(1)(b)(ii) of the 2014 Tariff Regulations provides for Maintenance spares @30% of the O&M expenses. Accordingly, maintenance spares allowed are as under:

(Rs. in lakh)

2014-15		2015-16	
1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
2895.04	5788.73	6183.31	6183.31

(Rs. in lakh)

2016-17	2017-18	2018-19	
		1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
6604.21	7053.17	7598.87	7598.87

Working capital for Receivables

89. Regulation 28(1)(b)(iv) of the 2014 Tariff Regulations provides for receivables for two months. Accordingly, receivables equivalent to two months of capacity charge and energy charge has been worked out duly taking into account mode of operation of the generating station on secondary fuel, as follows:

(Rs. in lakh)

	2014-15		2015-16	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
Variable Charges - for two months (A)	5183.38	9269.06	9294.46	9294.46
Fixed Charges – for two months (B)	6822.85	12312.47	12351.33	13136.52
Total (C) = (A+B)	**12006.23**	**21581.54**	**21645.79**	**22430.97**

(Rs. in lakh)

	2016-17	**2017-18**	**2018-19**	
			1.4.2018 to 30.9.2018	**1.10.2018 to 31.3.2019**
Variable Charges - for two months (A)	9269.06	9269.06	9269.06	10366.71
Fixed Charges – for two months (B)	13295.56	13120.38	13194.64	13194.64
Total (C) = (A+B)	**22564.63**	**22389.44**	**22463.71**	**23561.36**

<u>Rate of interest on working capital</u>

90. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10.00 + 350 bps). Accordingly, Interest on working capital has been computed as follows:

(Rs. in lakh)

	2014-15		2015-16	
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**
Working Capital for Cost of Coal/Lignite (A)	0.00	0.00	0.00	0.00
Working Capital for Cost of Main Secondary Fuel Oil (B)	0.00	0.00	0.00	0.00
Working Capital for Fuel Cost (30 Days) (C)	2556.19	4571.04	4571.04	4571.04
Working Capital for Liquid Fuel Stock (15 Days) (D)	0.00	0.00	0.00	0.00
Working Capital for O&M expenses (1 month) (E)	804.18	1607.98	1717.59	1717.59
Working Capital for Maintenance Spares (30% of O&M) (F)	2895.04	5788.73	6183.31	6183.31
Working Capital for Receivables (2 months) (G)	12006.23	21581.54	21645.79	22430.97
Total Working Capital (H) = (A+B+C+D+E+F+G)	**18261.64**	**33549.29**	**34117.73**	**34902.91**
Rate of Interest (I)	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (J) = (H)*(I)	**2411.29**	**99.27**	**113.26**	**4596.03**

(Rs. in lakh)

	2016-17	2017-18	2018-19	
			1.4.2018 to 30.9.2018	1.10.2018 to 31.3.2019
Working Capital for Cost of Coal/Lignite (A)	0.00	0.00	0.00	0.00
Working Capital for Cost of Main Secondary Fuel Oil (B)	0.00	0.00	0.00	0.00
Working Capital for Fuel Cost (30 Days) (C)	4571.04	4571.04	4571.04	5112.35
Working Capital for Liquid Fuel Stock (15 Days) (D)	0.00	0.00	0.00	0.00
Working Capital for O&M expenses (1 month) (E)	1834.50	1959.21	2110.80	2110.80
Working Capital for Maintenance Spares (30% of O&M) (F)	6604.21	7053.17	7598.87	7598.87
Working Capital for Receivables (2 months) (G)	22564.63	22389.44	22463.71	23561.36
Total Working Capital (H) = (A+B+C+D+E+F+G)	**35574.38**	**35972.86**	**36744.41**	**38383.37**
Rate of Interest (I)	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (J) = (H)*(I)	**4802.54**	**4856.34**	**2487.04**	**2583.78**

<u>Normative Annual Plant Availability Factor (NAPAF)</u>

91. The Petitioner has prayed for relaxation of NAPAF of the generating station, based on the actual data as follows:

	2014-15*	2015-16	2016-17	2017-18	2018-19
Actual PAF (%)	78.81	56.03	66.73	64.05	74.67

**Only Unit-I was in operation*

92. In justification of the same, the Petitioner has submitted the following:

(i) The Maharashtra Electricity Regulatory Commission (MERC) in its order dated 3.9.2013 in Case No. 28 of 2013 (MSPGCL v MERC) has permitted the full recovery of annual fixed charge of Uran GTPS at actual availability for 2009-10.

(ii) While considering the gas shortage, MERC has approved the actual availability of Uran GTPS while allowing the fixed cost recovery for 2012-13 (Order in Case No. 122 of 2014) and also for 2013-14 (Order in Case No. 15 of 2015).

93. The Petitioner has further submitted that this Commission in the past had granted relaxation for similar plants as per the Statement of Objects and Reasons to the 2009 Tariff Regulations, as follows:

> *"28.12 It is observed that the Target Availability of 80% could not be achieved by the Assam GPS from 2004-05 to 2007-08. It is because the station is not getting required quantity of gas for availability declaration of 80%. Further, as brought out in our explanatory memorandum with draft regulation that the allocation of 1.0 MCMD of gas on firm basis and 0.4 MCMD on fall back basis is sufficient for sustaining a generation level of the order of 70% only. Arranging of spot gas or any other alternate fuel in the remote north-eastern region is also not a feasible option. In this back drop, Commission is of the view that there is a case for relaxation of target availability norm for the Assam GPS station. However, the average availability of the station is about 73% for the years 2004-05 to 2007-08 despite availability of 70% (Actual PLF) in the year 2007-08. As regards, provision regarding conserving gas during off peak hours and using it during off-peak hours in consultation with beneficiaries due to gas shortage may be a difficult option for Assam GPS due to supply of gas from scattered wells, through short pipelines which do not have any capacity for gas storage (line pack), Considering all these aspects, a target availability norm of 72% is allowed for the tariff period 2009-14 as against 70% provided in the draft regulation."*

94. The Petitioner has submitted that the Commission had retained the same relaxed norm of 72% NAPAF for NEEPCO stations under the 2014 Tariff Regulations. The Petitioner has further submitted that for determining the norms of operation for hydro generating stations under Regulation 37(3) of the 2014 Tariff Regulations, a further allowance of 5% in Availability Factor was allowed considering the difficulties faced in the North-East Region. Accordingly, the Petitioner has prayed for relaxation of NAPAF to the Gas based power plant of the Petitioner.

95. The Respondent, APDCL has submitted that the Petitioner, in Petition No. 129/GT/2015, was allowed relaxation in NAPAF from 85% to 76% for the period 24.4.2015 to 30.9.2018, as one time relaxation, due to which the additional burden of fixed charges is being borne by the beneficiaries of the entire NER. The Respondent has further submitted that the Petitioner cannot draw parallel with NEEPCO's project for its own advantage. The Respondent has, therefore, submitted that the prayer of

the Petitioner may not be entertained as it would increase the burden of the end users. In response, the Petitioner has clarified that it has not been able to achieve even the relaxed NAPAF parameters allowed and has been incurring low realization of fixed charges.

96. The matter has been considered. It is observed that the Petitioner in Petition No.129/GT/2015 had submitted that the fuel supplier will be in a position to supply gas as per the requirement for full load generation of the plant, by September 2018. On the basis of this submission of the Petitioner, the Commission by order dated 30.3.2017 had approved NAPAF of 76% for the 2014-19 tariff period. We are of the view that, as one time relaxation for NAPAF had already been granted to the Petitioner by order dated 30.3.2017 in Petition No. 129/GT/2015, we find no reason to grant further relaxation of NAPAF, as prayed for by the Petitioner. In view of this, the NAPAF of 85% for 1.4.2014 to 23.3.2015 and 1.10.2018 to 31.3.2019 and 76.00% for 24.3.2015 to 30.9.2018 as approved by order dated 30.3.2017 has been considered for the 2014-19 tariff period.

Auxiliary Energy Consumption

97. The Petitioner has submitted that in order dated 31.8.2015 in Petition No.199/GT/2013 and order dated 30.3.2017 Petition No.129/GT/2015, the Auxiliary Energy Consumption (AEC) of 3.50% of had been allowed based on the actual AEC achieved by the generating station during 2014-15 and 2015-16. The Petitioner has also submitted that the variation in AEC is due to the operation of Gas booster compressor which consumes approximately 3.8 MW to increase the low pressure gas at plant boundary to approximately 32 kg/cm^2. Accordingly, the Petitioner has claimed the actual AEC for the 2014-19 tariff period as follows:

2014-15	2015-16	2016-17	2017-18	2018-19
3.85%	4.13%	4.23%	4.51%	4.14%

98. The Petitioner has further submitted that the variation in AEC is also due to the Units running on partial load and the actual PLF achieved during the 2014-19 tariff period is in the range of 54.50% to 76.58%. The Petitioner has pointed out that CEA during the framing of the 2019 Tariff Regulations, had recommended the additional AEC for plants running on partial load as follows:

PLF band (%)	90-100	80-89.99	70-79.99	60-69.99	50-59.99
Admissible % of additional AEC with respect to PLF as per CEA recommendations [A]	Nil	0.25	0.50	0.80	1.20

99. The Petitioner has also submitted that based on the actual PLF achieved during the 2014-19 tariff period, AEC as per CEA recommendations would be as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Actual PLF (%)	76.58	54.50	65.14	62.80	73.28
Approved AEC (%)	3.50	3.50	3.50	3.50	3.50
Normative AEC as per CEA recommendation (%) [3.50%+A]	4.00	4.70	4.30	4.30	4.00
Actual AEC (%)	3.85	4.13	4.23	4.51	4.14

100. The Petitioner has stated that the actual AEC of the Petitioner is almost in line with the recommendations of CEA, based on actual PLF and, thus, the Commission, in exercise of its power under Regulation 54 of the 2014 Tariff Regulations, may allow actual AEC to the generating station of the Petitioner.

101. The Respondent, APDCL has submitted that in order dated 30.3.2017 in Petition No. 129/GT/2015, additional AEC of 3.50% had been approved for the generating station, based on Gas Booster Compressors. The Respondent has further submitted that partial load operation of the Units is mainly due to non-availability of gas, which is the sole liability of the Petitioner and, therefore, the actual AEC as claimed by the Petitioner may not be allowed.

102. The matter has been considered. It is observed that in order dated 30.3.2017 in Petition No.129/GT/2015 additional AEC of 3.50% was approved for the 2014-19 tariff period, considering the fact that AEC could be more than 2.5% (which is specified norm) even at 85% or higher PLF, due to operation of electric driven Gas Booster Compressors (GBCs) which is a special feature in the generating station and consumes significant energy. As per the Detailed Operating Procedure dated 5.5.2017 under the Grid Code, related to compensation mechanism for ISGS (inter-State generating station), on account of degradation of SHR and increase in AEC due to part loading, a separate compensation is payable by the beneficiaries. Further, from the data furnished by the Petitioner, it is observed that increased AEC could also be due to lower loading factors in that period. Hence, the Petitioner's claim for additional AEC above 3.50% is not acceptable only on account of utilisation of Gas Booster Compressors. The detailed calculation of AEC, after compensation has not been submitted by the Petitioner. As one-time relaxation towards AEC was already granted to the generating station of the Petitioner by order dated 30.3.2017 in Petition No. 129/GT/2015, the prayer of the Petitioner to further relax AEC under Regulation 54 power of the 2014 Tariff Regulations is not acceptable. In view of this, AEC of 3.50%, as approved by order dated 30.3.2017 in Petition No. 129/GT/2015 has been considered for the 2014-19 tariff period.

Station Heat Rate

103. The Petitioner has claimed actual Heat Rate of the generating station as under:

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Actual PLF (%)	76.58	54.50	65.14	62.80	73.28
Approved SHR (kCal/kWh) by CERC [B]	1754.24	1754.24	1754.24	1754.24	1754.24
Normative SHR as per CEA recommendations	1841.95	1964.74	1894.57	1894.57	1841.95

[A/B+B]					
Actual AEC (%)	1834.15	1825.16	1805.43	1832.95	1790.56

104. The Petitioner has submitted that in order dated 30.3.2017 in Petition No.129/GT/2015, SHR of 1754.24 kCal/kWh had been allowed. The Petitioner has further submitted that the actual SHR claimed is in line with the recommendation of CEA towards lower PLF and, accordingly, prayed that actual SHR may be allowed in exercise of the power under Regulation 54 of the 2014 Tariff Regulations.

105. The Respondent, APDCL has submitted that lower PLF of the plant is mainly due to non-availability of gas which is the sole liability of Petitioner and it should look for avenues to increase the availability of gas so that SHR as approved can be maintained.

106. The matter has been considered. It is observed that by order dated 30.3.2017 in Petition No. 129/GT/2015, SHR of 1754.24 kCal/kWh was approved for the 2014-19 tariff period. It is also observed that the recommendation of CEA, as furnished during the framing of the 2019 Tariff Regulations, cannot be made applicable for the 2014-19 tariff period. Accordingly, SHR as approved by order dated 30.3.2017 in Petition No. 129/GT/2015 has been considered for the 2014-19 tariff period.

Annual Fixed Charges

107. Based on the above discussion, the annual fixed charges approved for the 2014-19 tariff period in respect of the generating station is summarized as follows:

(Rs. in lakh)

	2014-15		**2015-16**		**2016-17**	**2017-18**	**2018-19**
	1.4.2014 to 23.3.2015	**24.3.2015 to 31.3.2015**	**1.4.2015 to 9.4.2015**	**10.4.2015 to 31.3.2016**			
Depreciation	8316.01	331.58	374.80	15421.50	16409.05	16629.82	16762.13
Interest on Loan	13918.98	587.47	626.84	21110.33	19956.49	16945.51	15056.80
Return on	5954.96	177.93	200.59	15648.87	16591.28	16780.03	16948.55

	2014-15		2015-16		2016-17	2017-18	2018-19
Equity							
O & M Expenses	9438.63	422.92	506.83	20104.20	22014.03	23510.56	25329.55
Interest on Working Capital	2411.29	99.27	113.26	4596.03	4802.54	4856.34	5070.82
Annual fixed charges allowed	**40039.88**	**1619.17**	**1822.33**	**76880.92**	**79773.39**	**78722.25**	**79167.86**

108. The difference between the annual fixed charges already recovered by the Petitioner and the annual fixed charges determined by this order shall be adjusted in terms of the clauses (11), (12) and (13) of Regulation 8 of the 2014 Tariff Regulations.

109. Annexure-I given hereinafter shall form part of the order.

110. Petition No.108/GT/2020 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Pravas Kumar Singh)	**(I. S. Jha)**	**(P. K. Pujari)**
Member	**Member**	**Chairperson**

Annexure-I

Depreciation for the 2014-19 Tariff Period

(Rs. in lakh)

Sl. no.	Name of assets	Depreciation Rate	For 2014-15		For 2014-15		2015-16		2015-16		2016-17		2017-18		2018-19	
			Gross Block as on 1.4.2014	Depreciation Amount	Gross Block as on 23.3.2015	Depreciation Amount	Gross Block as on 1.4.2015	Depreciation Amount	Gross Block as on 10.4.2015	Depreciation Amount	Gross Block as on 1.4.2016	Depreciation Amount	Gross Block as on 1.4.2017	Depreciation Amount	Gross Block as on 1.4.2018	Depreciation Amount
1	Freehold Land	0.00%	716.19	0.00	716.19	0.00	716.19	0.00	716.19	0.00	961.85	0.00	961.85	0.00	961.85	0.00
2	Leasehold Land	3.34%	1023.77	34.19	1023.77	34.19	1023.77	34.19	1023.77	34.19	1023.77	34.19	1023.77	34.19	1023.77	34.19
3	Roads, bridges, culverts & helipad	3.34%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
4	Main Plant Buildings	3.34%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
5	Other Buildings	3.34%	35614.76	1189.53	35614.76	1189.53	35614.76	1189.53	54173.96	1809.41	54994.13	1836.80	54994.13	1836.80	55552.97	1855.47
6	Temporary erection	100.00%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
7	Water supply, drainage & sewerage system	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
8	MGR track and signalling system	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
9	Furniture and Fittings (Leasehold Improvements	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
10	Earth dam reservoir	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
11	Plant and machinery	5.28%	169988.41	8975.39	169988.41	8975.39	169988.41	8975.39	314600.14	16610.89	317281.68	16752.47	319224.27	16855.04	319987.22	16895.33
12	Furniture and fixtures	6.33%	244.21	15.46	244.21	15.46	244.21	15.46	381.46	24.15	381.46	24.15	381.46	24.15	381.46	24.15
13	Other Office Equipments	6.33%	99.26	6.28	99.26	6.28	99.26	6.28	117.68	7.45	202.12	12.79	202.12	12.79	2601.32	164.66
14	EDP, WP machines & SATCOM equipment	15.00%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
15	Vehicles including speedboats	9.50%	35.00	3.33	35.00	3.33	35.00	3.33	35.00	3.33	35.00	3.33	35.00	3.33	35.00	3.33
16	Construction equipment	6.33%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
17	Electrical installations	6.33%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
18	Communication equipment	6.33%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
19	Hospital equipment	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
20	Laboratory and workshop equipment	5.28%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
21	Leased assets - Vehicles	9.50%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
22	Software	15.00%	154.17	23.13	154.17	23.13	154.17	23.13	160.43	24.06	1142.93	171.44	1634.89	245.23	1634.89	245.23
23	Furniture and Fittings (Leasehold Improvements	5.28%	137.26	7.25	137.26	7.25	137.26	7.25	137.26	7.25	137.26	7.25	137.26	7.25	137.26	7.25
24	Unserviceable/Obsolete assets	6.33%		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Total		**208013.02**	**10254.55**	**208013.02**	**10254.55**	**208013.02**	**10254.55**	**371345.88**	**18520.72**	**376160.19**	**18842.42**	**378594.74**	**19018.79**	**382315.74**	**19229.60**
	Weighted Average Rate of Depreciation		**4.9298%**		**4.9298%**		**4.9667%**		**4.9984%**		**5.0164%**		**5.0267%**		**5.0298%**	