CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 369/GT/2020

Coram:

Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: **10th July, 2023**

In the matter of:

Petition for truing-up of tariff of Anta Gas Power Station (419.33 MW) for the period 2014-19.

And

In the matter of:

NTPC Limited,
NTPC Bhawan,
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110 003 **...Petitioner**

Vs

1. Uttar Pradesh Power Corporation Ltd.,
   Shakti Bhawan, 14, Ashok Marg,
   Lucknow – 226 001

2. Rajasthan Urja Vikas Nigam Ltd.
   (On behalf of Discoms of Rajasthan),
   Vidyut Bhawan, Janpath,
   Jaipur – 302 005

3. Tata Power Delhi Distribution Ltd.,
   Grid Substation, Hudson Road,
   Kingsway Camp, Delhi – 110 009

4. BSES Rajdhani Power Ltd.,
   BSES Bhawan, Nehru Place,
   New Delhi – 110 019

5. BSES Yamuna Power Ltd.,
   Shakti Kiran Building,
   Karkardooma, Delhi – 110 092

6. Haryana Power Purchase Centre,
   Shakti Bhawan, Sector - VI,
   Panchkula, Haryana – 134 109

7. Punjab State Power Corporation Ltd.,
   The Mall, Patiala – 147 001

8. Himachal Pradesh State Electricity Board Ltd.,
   Kumar Housing Complex Building – II,
   Vidyut Bhawan, Shimla – 171 004

9. Power Development Department,
   Govt. of J&K, Civil Secretariat
   Srinagar.

10. Electricity Department (Chandigarh),
    Union Territory of Chandigarh,
    Addl. Office Building, Sector – 9D,
    Chandigarh

11. Uttarakhand Power Corporation Ltd.,
    Urja Bhavan, Kanwali road,
    Dehradun – 248 001. ...Respondents

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Ms. Surbhi Gupta, Advocate, NTPC
Shri Anand Kumar Shrivastava, TPDDL
Ms. Ishita Jain, Advocate, TPDDL
Shri Aditya Ajay, Advocate, BSES Discoms
Shri Rahul Kinra, Advocate, BSES Discoms
Shri Aashwyn Singh, Advocate, BSES Discoms
Ms. Megha Bajpeyi, BRPL

ORDER

This petition has been filed by the Petitioner, NTPC limited, for truing up of tariff of Anta Gas Power Station (in short 'the generating station') for the period 2014-19 in terms of Regulation 8 (1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short "the 2014 Tariff Regulations").

2. The generating station, with a capacity of 419.33 MW comprises of three Gas

Turbine (GT) units of 88.71 MW each and a Steam Turbine (ST) unit of 153.20 MW. The dates of commercial operation of the units of the generating station are as under:

	Capacity (MW)	Actual COD
GT Unit - I	88.71	1.4.1989
GT Unit - II	88.71	1.5.1989
GT Unit - III	88.71	1.7.1989
ST Unit - II	153.20	1.8.1990

3. The Commission vide its Order dated 19.9.2016 in Petition No. 287/GT/2014, had approved the capital cost and the annual fixed charges of the generating station for the period 2014-19 as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	80272.36	81221.89	82940.99	83551.99	83551.99
Add: Projected Additional Capital Expenditure allowed	949.53	1719.10	611.00	0.00	0.00
Closing Capital Cost	**81221.89**	**82940.99**	**83551.99**	**83551.99**	**83551.99**
Average Capital cost	80747.12	82081.44	83246.49	83551.99	83551.99

Annual Fixed Charges allowed

(Rs.in lakh)

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

4. Regulation 8(1) of the 2014 Tariff Regulations provides as under:

> *"8. Truing up*
> *(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 shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17."*

5. Accordingly, the capital cost and annual fixed charges claimed by the Petitioner in are as under:

Capital cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	80272.36	80851.43	81493.60	82022.69	82378.05
Add: Addition during the year / period	623.57	1315.27	533.95	361.82	11.62
Less: Decapitalisation during the year /period	44.49	701.48	23.30	20.15	11.68
Add: Discharges during the year /period	0.00	28.38	18.44	13.68	40.56
Closing Capital Cost	**80851.43**	**81493.60**	**82022.69**	**82378.05**	**82418.55**
Average Capital Cost	80561.90	81172.52	81758.15	82200.37	82398.30

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2812.88	3009.69	3119.30	3223.33	3286.21
Interest on Loan	177.25	132.15	86.92	35.67	265.26
Return on Equity	6550.21	6618.04	6652.66	6678.81	6708.16
Interest on Working Capital	3705.17	3984.11	3833.80	3888.61	3944.83
O&M Expenses	6423.30	9909.77	7002.69	7454.55	7930.38
Total	**19668.81**	**23653.77**	**20695.37**	**21280.96**	**22134.85**
Additional O&M expenses					
Impact of Pay Revision	0.00	46.89	1017.54	1186.84	1327.55
Impact of GST	0.00	0.00	0.00	76.42	102.58
Total Annual Fixed Charges	**19668.81**	**23700.66**	**21712.91**	**22544.22**	**23564.98**

6. The Respondent UPPCL has filed its reply vide affidavits dated 12.6.2020 and 28.8.2021, and the Respondent TPDDL has filed its replies vide affidavits dated 26.6.2021 and 28.2.2023. The Petitioner vide affidavit dated 24.5.2021 and 8.11.2021 has filed its rejoinders to the replies of UPPCL. The Petitioner has also filed its rejoinder vide affidavits dated 29.10.2021 and 10.3.2023 to the reply of TPDDL. The Petitioner vide affidavit dated 28.6.2021 and 15.3.2022 has filed the additional information and has served the copies on the Respondents. The Commission, after hearing the parties, on 6.1.2023, had directed the Petitioner to submit certain additional information and reserved its order in the matter. In response, the Petitioner has filed the additional submissions vide affidavit dated 13.2.2023, after serving copies on the Respondents. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to true-up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

Capital Cost

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

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

8. The Commission vide its Order dated 19.9.2016 In Petition No.287/GT/2014 had allowed the opening capital cost of Rs. 80272.36 lakh. The Petitioner in the present Petition has considered the opening capital cost of Rs. 80272.36 lakh, as on 1.4.2014. Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs. 80272.36 lakh, as on 31.3.2014, has been considered as the opening capital cost as on 1.4.2014, for the purpose of truing-up of the tariff.

Additional Capital Expenditure

9. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted up to 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-19. Regulations 14(3) of the 2014 Tariff Regulations provides as under:

> *"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) Undischarged 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.

(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work 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) Deferred works relating to ash pond or ash handling system in the original scope of work; and

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

(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 undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

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

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

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

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

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

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

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

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

(4) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of decapitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."

Projected additional capital expenditure allowed vide Order dated 19.6.2016 in Petition No. 287/GT/2014.

10. The details of the projected additional capital expenditure allowed for the period 2014-19 vide Order dated 19.9.2016 in Petition No. 287/GT/2014 is summarised below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Phasing out of Halon Firefighting system	164.18	0.00	0.00	0.00	0.00
Replacement of underground firefighting pipelines	179.63	0.00	0.00	0.00	0.00
Additional Reservoir	68.09	0.00	0.00	0.00	0.00
Additional raw water Reservoir	0.00	1551.00	0.00	0.00	0.00
Up-gradation of Process Operating System POS)-30	448.78	0.00	0.00	0.00	0.00
Replacement of existing air washer with energy efficient air washer	88.85	94.30	0.00	0.00	0.00
Installation of energy efficient LED lights	0.00	0.00	0.00	0.00	0.00
Inlet air cooling system (GT-2 & GT-3)	0.00	0.00	0.00	0.00	0.00
Laying of railway track for inter-changeability of GT transformers spares/standby transformers.	0.00	0.00	0.00	0.00	0.00

Replacement of lube oil /generator cooler –gas turbine	0.00	73.80	0.00	0.00	0.00
Construction of D type dwelling units and construction of club facilities for executive children and ladies	0.00	0.00	611.00	0.00	0.00
Total Additional Capital expenditure allowed	**949.53**	**1719.10**	**611.00**	**0.00**	**0.00**

11. The Petitioner vide Form - 9A of the petition, has claimed the actual capital expenditure incurred for the period 2014-19, on accrual basis, as well as on cash basis. The additional capital expenditure claimed by the Petitioner (on cash basis) for the period 2014-19 is as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A.1	**Allowed vide order dated 19.6.2016**						
1	Additional Reservoir	66.65	0.00	0.00	0.00	0.00	66.65
2	Additional Raw water Reservoir	0.00	1037.88	409.13	32.70	0.00	1479.71
3	Phasing out of Halon Fire Fighting System	0.00	179.41	0.00	0.00	0.00	179.41
	Decap of Halon Fire Fighting System	0.00	(-)127.45	0.00	0.00	0.00	(-)127.45
4	Replacement of Existing Fire Lines & System	0.00	0.00	121.87	0.00	0.00	121.87
5	Upgradation of (Process Operating System) POS-30	412.48	0.00	0.00	0.00	0.00	412.48
6	Replacement of existing air washers	96.98	0.00	0.00	56.65	0.00	153.63
7	Installation of online gas measurement	0.00	2.51	0.00	0.00	0.00	2.51
	Sub-Total A.1:	**576.11**	**1092.35**	**531.00**	**89.35**	0.00	**2288.81**
A.2	**Claimed in Main petition**						
1	Effluent Quality Monitoring System (EQMS)	0.00	28.61	2.95	2.72	0.00	34.28
2	Continuous Emission Monitoring system (CEMS)	0.00	57.26	0.00	0.00	0.00	57.26
3	Installation of energy efficient LED Lights - Plant area	17.54	0.00	0.00	0.00	0.00	17.54
4	Separation of Effluents from Storm Water Drain & discharge	0.00	0.00	0.00	269.75	0.00	269.75
5	Ozon Analyzer system	0.00	0.47	0.00	0.00	0.00	0.47
6	Community garage in T/s	0.00	9.14	0.00	0.00	0.00	9.14
	Sub-Total A.2:	**17.54**	**95.47**	**2.95**	**272.47**	**0.00**	**388.43**

Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A.3	**New Claims**						
1	CW Intake Channel Flow Meter	15.48	0.00	0.00	0.00	0.00	15.48
2	Ozone Analyzer system	-	0.00	0.00	0.00	0.00	-
3	Dissolved Oxygen analyzer K-1100-800	10.81	0.00	0.00	0.00	0.00	10.81
4	30KW Roof Top Solar at Admn. Building	0.00	0.00	0.00	0.00	11.62	11.62
5	Solar Water Heater System on FH Cap 2000 litter	3.62	0.00	0.00	0.00	0.00	3.62
	S.Total A.3:	**29.92**	**0.00**	**0.00**	**0.00**	**11.62**	**41.54**
	Sub-Total Additional capitalization claimed	**623.57**	**1,187.82**	**533.95**	**361.82**	**11.62**	**2,718.78**
A.4	**Decap of Spares- Part of capital cost**	(-) 44.49	(-) 574.03	(-) 23.30	(-) 20.15	(-) 11.68	(-) 673.65
A	**Sub-Total Additional Capitalization**	**579.07**	**613.79**	**510.65**	**341.67**	**(-) 0.05**	**2,045.13**
B	**Add:** Discharge of Liabilities pertaining to allowed/Claimed works (B)	0.00	28.38	18.44	13.68	40.56	101.06
	Total Additional capitalization claimed including discharge of liability [(A) + (B)]	**579.07**	**642.17**	**529.09**	**355.35**	**40.51**	**2146.19**

12. The Respondent UPPCL has submitted that new claims of the Petitioner may be evaluated by the Commission on the principle enunciated in Petition 287/GT/2014. The Petitioner in its rejoinder has submitted the following:

a. **Replacement of Existing Fire Lines and System, Replacement of Existing Air Washer**: The Petitioner has considered the actual de-capitalization based on the original gross value of the asset decapitalized instead of estimated de-capitalization value as Petitioner has furnished the actual value of old assets for de-capitalization in the present petition. The details of the original cost vis-à-vis its de-capitalization value have been elaborated at Form 9Bi of the present Petition in terms of Regulation 14(4) of the 2014 Tariff Regulations. At the time when order dated 19.9.2016 in Petition No. 287/GT/2014 was passed the original value of the asset for the purpose of computing decapitalization was not provided to the Commission. Therefore, the Commission arrived at an ad-hoc value. However, in these proceedings the Petitioner has provided the requisite original value as contemplated under Regulation 14 (4) of the 2014 Tariff Regulations, therefore, the decapitalization as sought ought to be granted.

b. **Installation of Energy Efficient LED Lights:** The Government of India on 5.1.2015 launched National LED program with an objective to reduce energy consumption by using energy efficient lighting. In line with the objective, Unnat Jyoti by affordable LEDs for All (UJALA) and Street Lighting National Program me is being implemented by EESL. In this regard, through MoP, GoI vide letter dated 2.8.2017, NTPC was mandated to replace all old bulbs with LED bulbs in all its buildings including compound/ street lighting. Any directions of Government of India is required to be implemented and has the force of Law. In order to comply with the directions of Govt, of India contained in the letter dated 2.8.2017, Petitioner took the work of replacing the old in-efficient lights with efficient LED lighting in the premises of the station compound/ building owned and operated by NTPC. Further, at the time when Order dated 19.09.2016 in Petition No. 287/GT/2014 was passed, the bifurcation of projected additional capital expenditure in plant area and township area was not provided to the Commission. Therefore, the Commission was not inclined to allow the add-cap expenditure. The Petitioner has submitted that the current additional capitalization pertains to only Plant area, accordingly same may be allowed.

c. **Community Garage:** Anta Township is more than 25 years old. Due to the increase in number of new vehicles, the existing garages are inadequate. On account of less number of Garages available in the township, many of the vehicles which were not allocated dedicated parking spots, were parked near the Main Plant road going through the township, as the Main Plant road was well lit and patrolled area. However, the same was causing regular interruption to the movement of heavy vehicles/ trolleys carrying consumables, spares, H2 cylinders etc. and even during the plant overhauling which was not advisable in view of the safety of the vehicles as well as the successful & efficient operation of the station. Further, as per the Regulation 16 and 17 of the 2014 Tariff Regulations, gas station is not eligible for Special allowance/Compensation allowance for carrying out the capitalization of minor assets.

d. **Solar Water Heater System Cap 2000 Liters:** Solar Water Heater System (SWHS) cap 2000 liters is a part of energy conservation measure. Further, SWHS Having capacity of 2000 lit/day was installed in the hostel for saving of electricity, as per Ministry of New & Renewable Energy (GoI) potential of electrical saving energy from 100 lit/day capacity solar water heating is approx. 750 kWh/year and approx. 0.75 tone of CO_2 is released to generate this energy from coal-based power station. Therefore, expected result in Green House Gas and thus the averment raised by UPPCL that it is for the sole benefit of NTPC and will be retained by NTPC itself therefore the cost should be borne by NTPC itself is wrong and denied.

e. When in a project such measures are taken, it is for the benefit for the entire project and beneficiaries and until such costs are recognized in the tariff determination process, a generating company will not be in a position to function in a smooth and uninterrupted manner.

13. In consideration of the above submissions, we examine the actual additional capital expenditure claimed by the Petitioner. Accordingly, based on detailed justification, the works allowed and disallowed for the period 2014-19, are examined and tabulated below:

2014-15

S. No	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
	Allowed in order dated 19.9.2016					
1	Additional Reservoir	14(3) (ii) & 14(3) (vii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 68.09 lakh for the 2014-19 tariff period against projected claim of Rs 73.87 lakh. The actual completion cost of the work is 72.44 lakh on gross basis. There is minor deviation between allowed vs actual capital expenditure.	66.65	66.65	It is observed that the Commission vide order dated 25.5.2016 in Petition No. 331/GT/2014 had allowed the actual additional capital expenditure of Rs. 21.91 lakh in 2012-13 as against the projected additional capital expenditure of Rs. 90.00 lakh (allowed in order dated 15.5.2014 in Petition No. 139/GT/2013). Since the balance additional capital expenditure of Rs. 66.65 lakh claimed by the Petitioner is lower than the already admitted additional capital expenditure of Rs. 68.09 lakh, the same is **allowed**.
2	Upgradation of (Process Operating System) POS-30	14(3) (vii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 448.78 lakh for the 2014-19 tariff period. The actual capitalization is Rs. 415.78 lakh on gross basis. There is no Decapitalisation of asset as the work pertains to software upgradation only.	412.48	412.48	Since the additional capital expenditure had been approved by order dated 19.9.2016 in Petition No. 287/GT/2014, the claim is **allowed**.
3	Replacement of existing Air Washer with energy efficient Air Washer	14(3) (vii)	The Commission vide its order dated 19.9.2016 (at page no. 13-14) in Petition No. 287/GT/2014 has allowed Rs 183.15 lakh for the 2014-19 tariff period after considering notional decapitalisation of Rs 40.2 lakh. The actual capitalization claimed during 2014-15 is Rs 104.60 lakh on accrual basis and Rs. 96.98	96.98	96.98	The Petitioner has submitted necessary document in respect of obsolescence from OEM. Since the expenditure incurred is on account of replacement of the asset /work due to obsolescence of technology, the claim of the Petitioner is **allowed** under Regulation 14(3)(vii) of the 2014 Tariff

S. No	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			lakh on cash basis. Balance work of Rs.63.20 lakh on accrual basis and 56.65 lakh on cash basis was completed and capitalized in the year 2017-18. The Petitioner did not furnish the de-capitalization details in the petition.			Regulations. The corresponding de-capitalization of old asset has been considered under 'Assumed Deletions'
4	Installation of energy efficient LED Lights - Plant area	14(3)(vii) & 14(3)(ii)	LED lights are the energy efficient lights in comparison to the conventional lights. In this regard, the Government of India launched National LED Program with an objective to reduce energy consumption by using energy efficient lights. In line with this objective, the Petitioner proactively replaced all its conventional lights in the plant area by LED lights. In this regard, MoP, GoI vide letter dated 2.8.2017, also directed NTPC to replace all old bulbs with LED bulbs in all NTPC buildings including compound/ street lighting occupied by NTPC. the Petitioner has further submitted that the saving in Auxiliary Power Consumption (APC) on account of installation of energy efficient LED lights is being shared as per the 2014 Tariff Regulations.	17.54	0.00	In our view, the MOP, GOI letter is recommendatory in nature and cannot be construed as a Change in law event or is for compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting system, accrues to the Petitioner. In view of this, the additional capital expenditure claimed is **not allowed**
	New Claims					
5	CW Intake Channel Flow Meter	14 (3) (ii)	As per point no. (2)(iii) of the Minutes of Meeting dated 25.7.2013 between Command Area Development & Water Utilization (CAD & WU) Department, Govt of Rajasthan and NTPC water flow meter is to be installed at intake & outlet water channel. Presently there is no flow measurement available for CW intake channel water. No direct measurement is available to ensure how much water is drawn from right main canal during open cycle condition. So to comply with directive of Principal Secretary, CAD & WU Department, Govt of	15.48	15.48	The Petitioner has submitted the copy of Minutes of meeting dated 25.7.2013 between the Command Area Development & Water Utilization (CAD & WU) Department, Govt of Rajasthan and NTPC and accordingly, the water flow meter is to be installed at intake & outlet water channel. Accordingly, the claim of the Petitioner is **allowed** under change in law.

S. No	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			Rajasthan, flow meters have been installed in CW intake & outlet channel.			
6	Dissolved Oxygen analyzer K-1100-800	14(3) (vii)	Dissolved Oxygen (DO) in water may lead to rusting/ deterioration of feed water pipes & Boiler tubes. DO Analyser is required to measure and maintain water quality. Existing DO analyzers in SWAS system were very old & giving erratic reading. New DO analyser is procured & capitalised to maintain water quality in boiler. The corresponding decapitalisation of old items has been done during the year 2014-15. As per the Tariff Regulations 2014, gas station is not eligible for Special allowance / Compensation allowance for carrying out the capitalisation of minor assets.	10.81	10.81	Considered the fact that the expenditure incurred is necessary for the successful and efficient plant operation, the additional capital expenditure as claimed by the Petitioner is **allowed** under Regulation 14(3)(vii) of the 2014 Tariff Regulations.
7	Solar Water Heater System Cap 2000 litter	14 (3) (vii)	Installation of Solar Water Heating System (SWHS) is a part of Energy Conservation measure. SWHS having capacity of 2000 Lit/Day was installed in Field Hostel for saving of electricity. As per Ministry of New & Renewable Energy (GOI), potential of Electrical Energy saving from 100 Lit/Day capacity Solar Water Heating System is approx. 750 KWh/Year and approx. 0.75 Ton of CO2 is released to generate this energy from coal based power station. So expected reduction in Green House Gas (GHG).	3.62	0.00	As the additional capital expenditure claimed by the Petitioner is not directly related to the operation of the plant, the claim is **not allowed.**
	Total amount			**623.57**	**602.40**	

2015-16

S. No.	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
	Works admitted by the Commission					
1	Additional Raw water Reservoir	14(3)(vii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 1551 lakh for the 2014-19 tariff period. The Petitioner has capitalised Rs	1037.88	1037.88	The additional capital expenditure had already been approved vide order dated 19.9.2016 in Petition No. 287/GT/2014, the claim is **allowed**.

S. No.	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			1040.73 lakh during 2015-16 on gross basis.			
2	Phasing out of Halon Fire Fighting System	14(3)(ii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 164.18 lakh for the 2014-19 tariff period against projected claim of Rs 200.22 lakh. The actual completion cost of the work is 187.68 lakh on gross basis.	179.41	179.41	The additional capital expenditure of Rs. 164.18 lakh was allowed in order dated 19.9.2016 in Petition No. 287/GT/2014, whereas the Petitioner has claimed Rs. 179.41 lakh as additional capital expenditure for this item. Considering the necessity of the firefighting system for safety of the plant, the claim is **allowed**.
3	Installation of online gas measurement	14(3) (vii)	The Commission vide its order dated 15.5.2014 in Petition No. 139/GT/2013 has allowed Rs 123.70 lakh for 2012-14 tariff period. Major work was completed during 2013-14 and Rs 114.21 lakh was capitalised and the same was allowed by the Commission vide its order dated 25.5.2016 in Petition No. 331/GT/2014. The balance payment of Rs 2.51 lakh is being capitalised in FY 2015-16.	2.51	2.51	Since the claim is towards the balance payment of Rs 2.51 lakh in respect of the additional capital expenditure, which was earlier approved by order dated 15.5.2014 in Petition No. 139/GT/2013, the same is **allowed.**
	New Claims					
8	Effluent Quality Monitoring System (EQMS)	14(3)(ii)	Rajasthan State Pollution Control Board (RSPCB) vide its order dated 19.2.2015 directed to install Effluent Quality Monitoring System (EQMS) in Power Plants. To comply with this statutory requirement, EQMS has been installed and commissioned.	28.61	28.61	The Petitioner has submitted of the letter dated 19.2.2015 from RSPCB. In view of this, the additional capital expenditure claimed is **allowed**.
	Continuous Emission Monitoring system (CEMS)	14(3)(ii)	Rajasthan State Pollution Control Board (RSPCB) vide its order dated 19.2.2015 directed to install Continuous Emission Monitoring system (CEMS) to monitor stack emissions. To comply with this statutory requirement, CEMS has been installed and commissioned.	57.26	57.26	The Petitioner has submitted copy of the letter dated 19.2.2015 from RSPCB. In view of this, the additional capital expenditure claimed is **allowed**.
	Ozon Analyzer system	14(3)(ii)	Capitalisation of Ambient Air Quality Monitoring System (AAQMS) has been allowed by the Commission vide order dated 18.12.2009 in Petition No. 32/2009. Earlier there was no provision of Ozone measurement in the	0.47	0.47	The Petitioner has submitted copy of the notification dated 18.11.2009. In view of this, the additional capital expenditure claimed is **allowed**.

S. No.	Assets/Work	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			existing AAQMS. As per revised National Ambient Air Quality Standards (NAAQS) 2009 notification dated 18.11.2009, additional requirement of Ozone measurement in air was made mandatory. To comply with the statutory requirement, Ozone Analyser has been installed & commissioned in the existing AAQMS. Balance work was completed and capitalized in the year 2017-18. The current capitalization pertains to balance work of Ozone Analyzer System.			
11	Community garage in T/s	14(3)(vii)	Anta township is more than 25 years old. Due to increase in number of vehicles in the township over the period, the existing number of garages in the township are not adequate to accommodate all the vehicles. Hence, requirement was raised for construction of 20 no. additional garages in the township. As per the 2014 Tariff Regulations, gas station is not eligible for Special allowance / Compensation allowance for carrying out the capitalisation of minor assets.	9.14	0.00	As the additional capital expenditure claimed by the Petitioner is not directly related to the operation of plant, the claim is **not allowed.**
12	**Total amount**			**1315.27**	**1306.13**	

2016-17

S. No.	Assets/Works	Regulation Referred	Justification for admissibility	Claimed	Allowed	Justification for admissibility
	Already allowed by the Commission					
1	Additional Raw water reservoir	14(3)(vii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 1551 lakh for 2014-19 tariff period. The Petitioner has capitalised Rs 1040.73 lakh during 2015-16 and Rs 412.08 lakh during 2016-17 on gross basis.	409.13	409.13	As the additional capital expenditure claimed by the Petitioner had been approved by order dated 19.9.2016 in Petition No. 287/GT/2014, the claim is **allowed**.
2	Replacement of Existing Fire Lines & System	14(3)(vii)	The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 179.63 lakh	121.87	121.87	As the additional capital expenditure claimed by the Petitioner had been approved by order dated

S. No.	Assets/Works	Regulation Referred	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			for the 2014-19 tariff period. The Petitioner has executed and capitalized the work.			19.9.2016 in Petition No. 287/GT/2014, the claim is **allowed**. The corresponding de-capitalization of old asset has been considered under 'Assumed Deletions'
	New Claims					
3	Effluent Quality Monitoring System (EQMS)	14(3)(ii)	Rajasthan State Pollution Control Board (RSPCB) vide its order dated 19.2.2015 directed to install Effluent Quality Monitoring System (EQMS) in Power Plants. To comply with this statutory requirement, EQMS has been installed and commissioned.	2.95	2.95	The Petitioner has submitted copy of the letter dated 19.2.2015 from RSPCB. In view of this, the additional capital expenditure claimed is **allowed**.
	Total amount			**533.95**	**533.95**	

2017-18

S. No.	Assets/Works	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
	Already allowed by the Commission					
1	Additional Raw water Reservoir	14(3)(vii)	The Commission vide its Order dated 19.9.2016 in Petition No. 287/GT/2014 has allowed Rs 1551 lakh for 2014-19 tariff period. The Petitioner has capitalised Rs 1040.73 lakh during 2015-16, Rs 412.08 lakh during 2016-17 and Rs 32.70 lakh during 2017-18 on gross basis.	32.70	32.70	Considering the fact that the additional capital expenditure claimed by the Petitioner is lesser than the additional capital expenditure approved by order dated 19.9.2016 in Petition No. 287/GT/2014, the claim is **allowed**.
2	Replacement of existing Air Washer with energy efficient Air Washer	14(3)(vii)	Please refer justification at S. No. 3 of Form-9A for FY 2014-15. The current capitalization pertains to balance work.	56.65	56.65	The Petitioner has submitted document evidence in respect of obsolescence from OEM. Since the expenditure incurred is on account of replacement of the asset /work due to obsolescence of technology, the claim of the Petitioner is **allowed** under Regulation 14(3)(vii) of the 2014 Tariff Regulations. The corresponding de-capitalization of old asset has been considered under 'Assumed Deletions'.
	New Claims					
3	Separation of Effluents from Storm Water	14(3)(ii)	As per the directions issued by Rajasthan State Pollution Control Board (RSPCB) on 2.7.2014 under Section 33A	269.75	269.75	The Petitioner has submitted copy of the letter dated 2.7.2015 from RSPCB. In view of this, the

S. No.	Assets/Works	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
	Drain & discharge		of Water (Prevention & Control of Pollution) Act, 1974, it is mandated to maintain Zero discharge from the instant station. Separation of Effluents from Storm Water Drain/ discharge is necessary for ensuring the Zero discharge as per statutory requirement.			additional capital expenditure as claimed is **allowed**.
4	Effluent Quality Monitoring System (EQMS)	14(3)(ii)	Rajasthan State Pollution Control Board (RSPCB) vide its order dated 19.2.2015 directed to install Effluent Quality Monitoring System (EQMS) in Power Plants. To comply with this statutory requirement, EQMS has been installed and commissioned.	2.72	2.72	The Petitioner has submitted copy of the letter dated 19.2.2015 from RSPCB. In view of this, the additional capital expenditure claimed is **allowed**.
	Total amount			**361.82**	**361.82**	

2018-19

S. No.	Assets/Works	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
1	30KW Roof Top Solar at Administration Building	Regulation 14(3)(ii) read with Regulation 54	In view of the Government of India's target for installation of 175 GW of Renewable power by the end of 2022 and as the measure of energy conservation, the Petitioner has taken initiative by installing 30 KW solar rooftop PV. This initiative shall not only help reduce the coal consumption, thereby reducing the CO2 emission but also contribute to reduce the auxiliary power consumption (APC). While on one hand it will help pass on the benefit of saving in APC to the beneficiaries of the station on the other hand, it shall contribute towards the cleaner environment for the benefit of the public at large. Presently, MOEF is also prescribing the installation of renewable generation plants in the premises of thermal generating station, while	11.62	0.00	As the additional capital expenditure claimed by the Petitioner is not directly related to the operation of the plant, the claim is **not allowed.**

S. No.	Assets/Works	Regulation	Justification for admissibility	Claimed	Allowed	Justification for admissibility
			granting the MOEF clearance for new projects. Accordingly, requested the Commission to allow such work under change in law exercising the regulation-54 i.e. under 'Power to relax'.			
	Total amount			**11.62**	**0.00**	

Decapitalization

14. The Petitioner has claimed the total de-capitalisation of Rs. 801.10 lakh during the period 2014-19 under Regulation 14(4) of the 2014 Tariff Regulations, wherein, an amount of Rs. 673.65 lakh corresponds to de-capitalisation of spares (i.e. Rs. 44.49 lakh in 2014-15, Rs. 547.03 lakh in 2015-16, Rs. 23.30 lakh in 2016-17, Rs. 20.15 lakh in 2017-18, Rs. 11.68 lakh in 2018-19) and Rs. 127.45 Lakh in 2015-16 towards Decapitalisation of Halon Fire Fighting System.

15. Regulation 14(4) of the 2014 Tariff Regulations provides that original value of de-capitalised assets shall be deducted from the capital cost allowed to the generating station. In view of this, Rs. 673.65 lakh (i.e., Rs. 44.49 lakh in 2014-15, Rs. 547.03 lakh in 2015-16, Rs. 23.30 lakh in 2016-17, Rs. 20.15 lakh in 2017-18, Rs. 11.68 lakh in 2018-19) is allowed as the total decapitalization of capital spares during 2014-19 tariff period. As regards the decapitalisation of Rs. 127.45 lakh, related to the work 'Phasing out of Halon Fire Fighting System', as claimed by the Petitioner in 2015-16 is also allowed.

Assumed Deletion

16. In order to make a prudent check,, as per the consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is allowed for the purpose of tariff provided that the capitalisation of the said asset, is followed by

the decapitalisation of the gross value of the substituted old asset. However, in certain cases, where the de-capitalisation is proposed to be affected during the future year of capitalisation of the new asset, the decapitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such decapitalization which is not a book entry in the year of capitalization is termed as 'Assumed Deletion'. Therefore, the methodology of arriving at the fair value of the decapitalised asset, i.e., escalation rate of 5% per annum from the COD gas been considered in order to arrive at the gross value of the old asset under consideration as on COD as 100% and escalated it @5% per annum, till the year, during which additional capital expenditure is claimed against the replacement of the same. The amount claimed for the additional capital expenditure against the asset is multiplied by the derived ration from above values i.e., value in year of COD divided by value in capitalized year.

17. The Petitioner, in this petition, has claimed additional capital expenditure on account of air washers and Fire Lines & System on replacement basis, but has, however, not furnished the decapitalized value of the old assets. Accordingly, the decapitalized value of the assets/works has been calculated in terms of the above-mentioned methodology. Accordingly, the 'Assumed Deletions' allowed of the purpose of tariff is as under:

(Rs. In lakh)

Year of Claim	Head	Additional Capital Expenditure allowed	Assumed Deletion
2014-15	Replacement of existing air washers	96.98	30.07
2016-17	Replacement of Existing Fire Lines & System	121.87	34.27
2017-18	Replacement of existing air washers	56.65	15.17

18. In view of the above the total decapitalisation allowed is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalisation of Spares- Part of capital cost	44.49	574.03	23.30	20.15	11.68

Decapitalisation of Halon Fire Fighting System	0.00	127.45	0.00	0.00	0.00
Assumed Deletion	30.07	0.00	34.27	15.17	0.00
Total	**74.56**	**701.48**	**57.57**	**35.32**	**11.68**

<u>Un-discharged liabilities and Discharge of liabilities</u>

19. The discharge of un-discharged liabilities claimed by the Petitioner are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
0.00	28.38	18.44	13.68	40.56

20. It is observed that discharge of Rs. 28.38 lakh in 2015-16 includes an amount of Rs. 30,900 towards "Solar Water Heater System Cap 2000 ltr" which has not been allowed in this order. Accordingly, the following discharge of liabilities is allowed for the purpose of tariff:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
0.00	28.07	18.44	13.68	40.56

21. Accordingly, the closing undischarged liabilities works out as Rs. 141.12 lakh, as on 31.3.2019.

<u>Exclusions</u>

22. The summary of exclusions from books of accounts under different heads for the purpose of tariff are shown as follows:

(Rs. in lakh)

Sl. No.	Head of Works	2014-15	2015-16	2016-17	2017-18	2018-19
1	Capitalization not claimed	10.26	0.00	0.00	0.00	0.00
2	Capital Spares-Capitalization	2396.57	3332.96	229.50	1006.32	398.37
3	Capitalization of MBOA Items	42.07	131.32	192.94	127.30	40.65
4	Decap of MBOAs (Part of capital cost)	(-) 13.58	(-) 13.87	(-) 7.17	(-) 173.77	(-) 1.20
5	Decap of spares (Not Part of capital cost)	(-) 144.23	(-) 98.27	(-) 3.65	(-) 5.12	(-) 12.79
6	Decap of MBOAs (Not Part of capital cost)	(-) 5.57	(-) 11.90	(-) 35.86	(-) 78.75	(-) 8.12
7	Loan FERV	(-) 1837.82	1192.93	(-) 492.18	706.98	(-) 63.76

Sl. No.	Head of Works	2014-15	2015-16	2016-17	2017-18	2018-19
8	Reversal of liability	0.00	(-) 1.28	(-) 1.47	(-) 5.65	
9	Inter Unit Transfer	2.12	(-) 7.99	(-) 12.65	(-) 1.88	(-) 17.79
10	Asset Class Reconfiguration	0.00	0.00	0.00	0.00	0.00
11	Ind AS Adjustment	0.00	0.00	393.97	0.00	0.00
12	Electronic Weighing Machine Cap 100 KG	0.00	0.00	0.00	0.16	0.00
13	Electronic Weighing Machine Cap 500KG	0.00	0.00	0.00	0.26	0.00
14	Wi-Fi Internet Access Solution at NTPC Anta.	0.00	0.00	0.00	0.00	34.98
	Total Exclusions claimed	**449.84**	**4523.91**	**263.44**	**1575.84**	**370.33**

a) Capitalization not claimed

23. The Petitioner has claimed exclusion of Rs. 10.26 lakh in 2014-15 towards items not allowed by the Commission under the head "Capitalization not claimed". The Petitioner has submitted that these items were disallowed by the Commission vide order dated 25.5.2016 in Petition No. 331/GT/2014 and Minor assets not allowed as per the 2014 Tariff Regulations, respectively. It is observed from the submissions of the Petitioner that these items have not been allowed in tariff and do not form part of the capital cost. Since these assets do not form part of the capital cost, the exclusion for these items for the said amount is allowed.

b) Capitalization of Spares

24. The Petitioner has procured capital spares amounting to Rs. 2396.57 lakh in 2014-15, Rs. 3332.96 lakh in 2015-16, Rs. 229.50 lakh in 2016-17, Rs. 1006.32 lakh in 2017-18 and Rs. 398.37 lakh in 2018-19. In justification, the Petitioner has submitted that as capital spares capitalized after the cut-off date are not allowed in terms of the 2014 Tariff Regulations, the same has been kept under exclusions. Since capitalization of spares over and above Initial spares, procured after the cut-off date of the generating station are not allowed for the purpose of tariff, as they form part of O&M expenses as and when consumed, the Petitioner has excluded the said amount. Accordingly, the

exclusion claimed by the Petitioner under this head is in order and is allowed.

c) Capitalization of MBOA Items

25. The Petitioner has procured Miscellaneous Bought out Assets (MBOAs) amounting to Rs. 42.07 lakh in 2014-15, Rs. 131.32 lakh in 2015-16, Rs. 192.94 lakh in 2016-17, Rs. 127.30 lakh in 2017-18 and Rs. 40.65 lakh in 2018-19. In justification of the same, the Petitioner has submitted that as capitalization of MBOA procured after the cut-off date of the generating station is not allowed for the purpose of tariff, the Petitioner has excluded the said amount. The exclusion claimed by the Petitioner under this head is in order and is allowed

<u>Decapitalization</u>

d) De-capitalization of Miscellaneous Bought out Assets (MBOA) forming part of the capital cost

26. The Petitioner has claimed de-capitalized MBOA amounting to (-) Rs. 13.58 lakh in 2014-15, (-) Rs. 13.87 lakh in 2015-16, (-) Rs. 7.17 lakh in 2016-17, (-) Rs. 173.77 lakh in 2017-18 and (-) Rs. 1.20 lakh in 2018-19. The decapitalization of MBOA includes Furniture & Fixture, communication equipments, construction equipments, other Office Equipment's and Hospital Equipment's which were capitalized prior to the cut-off date of the generating station. Hence, decapitalized amount pertains to MBOA which form part of the capital cost of the generating station for the purpose of the tariff. As such, in terms of Regulation 14(4) of the 2014 Tariff Regulations, the decapitalized amount needs to be deducted for arriving at the capital cost for the purpose of tariff. Accordingly, the exclusion claimed by the Petitioner on account of decapitalization of MBOA is not in accordance to Regulation 14(4) of the 2014 Tariff Regulations and hence not allowed for the purpose of tariff.

e) Decapitalization of Capital Spares (not part of capital cost)

27. The Petitioner has excluded de-capitalized spares amounting to (-) Rs. 144.23 lakh

in 2014-15, (-) Rs. 98.27 lakh in 2015-16, (-) Rs. 3.65 lakh in 2016-17, (-) Rs. 5.12 lakh in 2017-18 and (-) Rs. 12.79 lakh in 2018-19 for the purpose of tariff. In justification of the same, the Petitioner has submitted that the items do not pertain to the capital cost allowed by the Commission and accordingly, the capitalization of spares has been claimed as exclusion in the present petition. The Petitioner has certified that these spares were not allowed by the Commission in order dated 21.1.2011 in Petition No. 127/2009, orders dated 15.5.2014 & 25.5.2016 in Petition No. 139/GT/2013 & 331/

28. GT/ 2014 and capitalization of spares beyond the cut-off date is not admissible as per the 2014 Tariff Regulations. Therefore, it appears that the decapitalised spares claimed under exclusion (as not part of capital cost), forms part of the spares disallowed vide above mentioned order. Since the capitalization of above-mentioned spares were not allowed, they do not form part of the capital cost for the purpose of tariff. Hence, the exclusion of de-capitalization of the spares as claimed by the Petitioner, is in order and allowed.

f) De-capitalization of Miscellaneous Bought out Assets (MBOA) not forming part of the capital cost

29. The Petitioner has claimed exclusion of de-capitalized MBOA amounting to (-) Rs. 5.57 lakh in 2014-15, (-) Rs. 11.90 lakh in 2015-16, (-) Rs. 35.86 lakh in 2016-17, (-) Rs. 78.75 lakh in 2017-18 and (-) Rs. 8.12 lakh in 2018-19, on the ground that the same do not form part of the allowed capital cost. On scrutiny of Form-9Bi, it is observed that the Petitioner in respect of assets capitalised before 2014-15 has mentioned the order in which particular asset was disallowed in order dated 1.11.2002 in Petition no. 36/2002, order dated 25.5.2016 in Petition No. 331/GT/2014, order dated 13.4.2005 in Petition No. 174/2004, order dated 18.12.2009 in Petition No. 32/2009, order dated 21.1.2011 in Petition No. 127/2009 and for assets capitalised after 2014-15, the Petitioner has mentioned that capitalization of these MBOA beyond the cut-off date was not admissible

as per the 2014 Tariff Regulations and accordingly has claimed the de-capitalization of these items under exclusion. As, the assets claimed under exclusion do not form part of capital cost, the exclusion for the same is allowed for the purpose of tariff.

g) Exclusion claimed for Loan FERV

30. The Petitioner has excluded amounts of (-) Rs. 1837.82 lakh in 2014-15, Rs. 1192.93 lakh in 2015-16, (-) Rs. 492.18 lakh in 2016-17, (-) Rs. 706.98 lakh in 2017-18 and (-) Rs. 63.76 lakh in 2018-19, on account of Loan ERV. The Petitioner has submitted that it is entitled to directly claim ERV on foreign currency loans as per the 2014 Tariff Regulations and therefore, has kept FERV under exclusion. As the Petitioner is required to bill the said amount directly on the beneficiaries, the exclusion of loan ERV is allowed.

h) Exclusion claimed for reversal of liability

31. The Petitioner has claimed reversal of liability of (-) Rs. 1.28 lakh in 2015-16, (-) Rs. 1.47 lakh in 2016-17 and (-) Rs. 5.65 lakh in 2017-18 of the same value as un-discharged liability (zero on net basis). The Petitioner has submitted that as tariff allowed is on cash basis, the reversal of liabilities has been kept under exclusion. We agree with the submissions of the Petitioner that reversal of liabilities shall not impact the capital cost considered for the purpose of tariff, determined on cash basis. Accordingly, the exclusion claimed by the Petitioner is in order and allowed.

i) Inter-unit transfer

32. The Petitioner has excluded amounts of Rs. 2.12 lakh in 2014-15, (-) Rs. 7.99 lakh in 2015-16, (-) Rs. 12.65 lakh in 2016-17, (-) Rs. 1.88 lakh in 2017-18 and (-) Rs. 17.79 lakh in 2018-19 on account of Inter-Unit Transfer. In justification of the same, the Petitioner has submitted that items under inter unit transfer were not considered by the Commission for tariff purpose and hence kept under exclusion. We are of the considered view that both positive and negative entries arising out of inter unit-transfers

of temporary nature shall be ignored for the purpose of tariff. In view of above, the exclusion of inter-unit transfer as claimed by the Petitioner is allowed.

j) Asset Class Reconfiguration

33. With regard to the expenditure on regrouping, Form-9D as furnished by the Petitioner indicates “Nil” expenditure in 2015-16. As such, after adjustment, the net claim against regrouping of assets is reduced to zero. It is observed that the Petitioner has not submitted any justification towards reclassification of such assets. However, it is assumed that the expenditure claimed for 2015-16 is an accounting adjustment entry, and therefore, the exclusion of the same is allowed.

k) Ind AS adjustment (Overhauling)

34. As regards Overhauling, the reconciliation statement as submitted by the Petitioner indicates an expenditure of Rs. 393.97 lakh in 2016-17, with corresponding negative entries of the same amounts as Ind As Adjustment (Overhauling). As such, after adjustment, the net claim against overhauling reduces to zero as per IGAPP. Considering the fact that the expenditure on overhauling form part of the normative O&M expenses, the accounting adjustment leading to zero expenditure is in order and does not impact the claim made by the Petitioner. Therefore, the exclusion claimed by the Petitioner is allowed.

l) Electronic Weighing Machine Cap and Wi-Fi internet access solution at NTPC Anta.

35. It is observed that observed that the Petitioner has claimed amounts for Rs. 0.16 lakh and Rs. 0.26 lakh towards 100 kg and 500 kg Electronic Weighing Machine Cap respectively and Rs. 34.98 lakh towards Wi-Fi internet access solution at NTPC Anta. In justification of the same, the Petitioner has submitted that items are not admissible under the 2014 Tariff Regulations. Since capitalization of these items are not allowed under the 2014 Tariff Regulations, the exclusion of the said amounts under this head

are in order and allowed. Based on the above discussion, the summary of exclusions allowed/ not allowed for the purpose of tariff is as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Exclusions Claimed (A)	449.84	4523.91	263.44	1575.84	370.33
Exclusions Allowed (B)	463.41	4537.78	270.61	1749.61	371.53
Exclusion not allowed (A-B)	(-) 13.58	(-) 13.87	(-) 7.17	(-) 173.77	(-) 1.20

36. Accordingly, the additional capital expenditure allowed, on cash basis, for the period 2014-19, is summarised below:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A.1	**Allowed vide order dated 19.9.2016**						
1	Additional Reservoir	66.65	0.00	0.00	0.00	0.00	66.65
2	Additional Raw water reservoir	0.00	1037.88	409.13	32.70	0.00	1479.71
3	Phasing out of Halon Fire Fighting System	0.00	179.41	0.00	0.00	0.00	179.41
4	Replacement of Existing Fire Lines & System	0.00	0.00	121.87	0.00	0.00	121.87
5	Upgradation of (Process Operating System) POS-30	412.48	0.00	0.00	0.00	0.00	412.48
6	Replacement of existing air washers	96.98	0.00	0.00	56.65	0.00	153.63
7	Installation of online gas measurement	0.00	2.51	0.00	0.00	0.00	2.51
	Sub-Total A.1:	**576.11**	**1219.80**	**531.00**	**89.35**	**0.00**	**2416.26**
A.2	**Claimed in Main petition**						
1	Effluent Quality Monitoring System (EQMS)	0.00	28.61	2.95	2.72	0.00	34.28
2	Continuous Emission Monitoring system (CEMS)	0.00	57.26	0.00	0.00	0.00	57.26
3	Installation of energy efficient LED Lights - Plant area	0.00	0.00	0.00	0.00	0.00	0.00
4	Separation of effluents from Storm Water Drain & discharge	0.00	0.00	0.00	269.75	0.00	269.75
5	Ozon Analyzer system	0.00	0.47	0.00	0.00	0.00	0.47
6	Community garage in T/s	0.00	0.00	0.00	0.00	0.00	0.00
	Sub-Total A.2:	**0.00**	**86.33**	**2.95**	**272.47**	**0.00**	**361.75**
A.3	**New Claims**						

Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	CW Intake Channel Flow Meter	15.48	0.00	0.00	0.00	0.00	15.48
2	Ozone Analyzer system	0.00	0.00	0.00	0.00	0.00	0.00
3	Dissolved Oxygen analyzer K-1100-800	10.81	0.00	0.00	0.00	0.00	10.81
4	30KW Roof Top Solar at Admn Building	0.00	0.00	0.00	0.00	0.00	0.00
5	Solar Water Heater System on FH Cap 2000 litter	0.00	0.00	0.00	0.00	0.00	0.00
	Sub-Total A.3:	**26.30**	**0.00**	**0.00**	**0.00**	**0.00**	**26.30**
	Subtotal (A)	**602.40**	**1306.13**	**533.95**	**361.82**	**0.00**	**2804.30**
B	Decapitalization of Spares- Part of capital cost	44.49	574.03	23.30	20.15	11.68	673.65
	Decap of Halon Fire Fighting System	0.00	127.45	0.00	0.00	0.00	127.45
	Assumed Deletion	30.07	0.00	34.27	15.17	0.00	79.52
	Sub-Total (B)	**74.56**	**701.48**	**57.57**	**35.32**	**11.68**	**880.62**
C	Add: Discharge of Liabilities pertaining to allowed works (C)	0.00	28.07	18.44	13.68	40.56	100.75
D	Add: Exclusions not allowed (D)	(-) 13.58	(-) 13.87	(-) 7.17	(-) 173.77	(-) 1.20	(-) 209.59
Total [(A) - (B) + (C)]+(D)]		**514.27**	**618.85**	**487.65**	**166.41**	**27.68**	**1814.85**

Capital cost allowed for the period 2014-19

37. Accordingly, the capital cost allowed for the purpose of tariff is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	80272.36	80786.63	81405.47	81893.12	82059.53
Add: Additional Capital Expenditure allowed	514.27	618.85	487.65	166.41	27.68
Closing Capital Cost	**80786.63**	**81405.47**	**81893.12**	**82059.53**	**82087.21**
Average Capital Cost	80529.49	81096.05	81649.30	81976.33	82073.37

Debt-Equity Ratio

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

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

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

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

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

39. The gross loan and equity of Rs. 46958.52 lakh and Rs. 33313.84 lakh, respectively as on 31.3.2014 as allowed in order dated 19.9.2016 in Petition No. 287/GT/2014 has been considered as on 1.4.2014. The Petitioner has claimed debt-equity ratio of 70:30 for additional capital expenditure during the period 2014-19. Accordingly, in terms of Regulation 19(5) of the 2014 Tariff Regulations, the debt-equity ratio of 70:30 has been considered for additional capital expenditure. Further, for the assets de-capitalised, the debt-equity ratio of 50:50 has been considered, since these assets were originally allocated to debt and equity in the ratio of 50:50 in the respective tariff orders. For decapitalised assets having debt equity ratio of 70:30, decapitalisation has been considered in the same ratio. Accordingly, the details of debt-equity ratio in respect of the generating station as on 1.4.2014 and as on 31.3.2019 are as follows:

	Capital cost as on 1.4.2014 (Rs. in lakh)	(%)	Additional capital expenditure (Rs. in lakh)	(%)	Decapitalization (Rs. in lakh)	(%)	Decapitalization (Rs. in lakh)	(%)	Capital cost as on 31.3.2019 (Rs. in lakh)	(%)
Debt	46958.52	58.50%	2033.54	70%	519.09	50%	36.42	70%	48436.55	59.01%
Equity	33313.84	41.50%	871.52	30%	519.09	50%	15.61	30%	33650.66	40.99%
Total	**80272.36**	**100%**	**2905.06**	**100%**	**1038.17**	**100%**	**52.03**	**100%**	**82087.21**	**100%**

Return on Equity

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

"24. Return on Equity:
(1) Return on equity shall be computed in rupee terms on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations transmission system including communication system and run of 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 any of the Restricted Governor Mode Operation (RGMO) / Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system:
(v) as and when any of the above requirement are found lacking in a generating station based on the report submitted by the respective RLDC ROE shall be reduced by 1% for the period for which the deficiency continues: (vi) additional ROE shall not be admissible for transmission line having length of less than 50 kilometres."

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

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

42. The matter has been considered. Based on the prudence check of the information submitted by the Petitioner, it is observed that, the Petitioner has claimed Return on Equity (ROE) for the period 2014-19, after grossing up the base rate of 15.50% with effective tax rates (based on MAT rates) for the respective years in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations and hence the same has been considered. Accordingly, ROE has been worked out as follows:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Normative Equity-Opening	A	33313.84	33450.49	33493.08	33626.42	33644.73
Addition of Equity due to additional capital expenditure	B	136.65	42.58	133.35	18.31	5.93
Normative Equity-Closing	C=A+B	33450.49	33493.08	33626.42	33644.73	33650.66
Average Normative Equity	D=Average(A,C)	33382.17	33471.78	33559.75	33635.58	33647.70

		2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity (Base Rate)	E	15.50%	15.50%	15.50%	15.50%	15.50%
Effective Tax Rate	F	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre Tax)	G=E/ (1-F)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre Tax) annualized	**H=D*G**	**6546.24**	**6595.62**	**6612.95**	**6627.89**	**6648.11**

Interest on Loan

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

"26. Interest on loan capital:

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

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

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.

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

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

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

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

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

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

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

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

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

44. Interest on loan has been computed as under:

(i) Gross normative loan amounting to Rs. 46958.52 lakh as considered in Order dated 19.9.2016 in Petition No.287/GT/2014 has been considered as on 1.4.2014.

(ii) Cumulative repayment amounting to Rs. 30103.80 lakh, as considered in Order dated 19.9.2016 in Petition No.287/GT/2014 has been considered as on 1.4.2014.

(iii) Accordingly, the net normative opening loan as on 1.4.2014 is Rs. 16854.72 lakh.

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

(v) The repayment for the respective years of the 2014-19 tariff period has been considered equal to the depreciation allowed for that year. Further, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff;

(vi) The weighted average rate of interest on loan (WAROI) is based on the details of actual loan portfolio and rate of interest furnished by the Petitioner.

45. Interest on loan has been worked out as under:

(Rs. in lakh)

		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross opening loan	A	46958.52	47336.13	47912.40	48266.70	48414.81
Cumulative repayment of loan upto previous year	B	30103.80	32950.86	36209.70	39371.50	42667.90
Net Loan Opening	C=A-B	16854.72	14385.28	11702.69	8895.20	5727.00
Addition due to additional capital expenditure	D	377.61	576.26	354.30	148.10	21.75
Repayment of loan during the year	E	2802.99	2901.17	3129.43	3217.36	3298.57
Less: Repayment adjustment on account of de-capitalization	F	(-) 44.07	(-) 357.68	(-) 32.37	(-) 98.95	(-) 5.93
Net Repayment of loan during the year	G=E-F	2847.06	3258.85	3161.80	**3316.31**	**3304.49**
Net Loan Closing	H=C+D-G	14385.28	11702.69	8895.20	5727.00	2444.25
Average Loan	I=Average (C,H)	15620.00	13043.99	10298.95	7311.10	4085.62
Weighted Average Rate of Interest of loan	J	1.13%	0.98%	0.79%	0.44%	5.21%
Interest on Loan	**K=I*J**	**176.72**	**128.22**	**81.06**	**31.82**	**212.87**

Depreciation

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

"27. Depreciation:

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

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

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

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

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

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

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

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

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

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

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

(7) The generating company or the transmission license as the case may be shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The

Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

47. Cumulative depreciation amounting to Rs. 30103.80 lakh as on 1.4.2014, as considered in order dated 19.9.2016 in Petition No. 287/GT/2014 has been retained for the purpose of tariff. Further, the value of freehold land included in the average capital cost has been adjusted while calculating the depreciable value for the purpose of tariff. The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 had already considered the useful life of 7 years from 1.4.2014 and the same has been considered for calculation of depreciation. Depreciation has been computed by spreading over the balance depreciable value over the balance useful life of the assets. Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Average Capital Cost	A	80529.49	81096.05	81649.30	81976.33	82073.37
Value of freehold land	B	113.17	113.17	113.17	113.17	113.17
Aggregated Depreciable Value	C=(A-B)*90%	72374.69	72884.59	73382.52	73676.84	73764.18
Remaining Aggregate Depreciable value at the beginning of the year	D=C- (Cumulative Depreciation of Previous year)	19620.92	17407.01	15647.13	12869.44	9895.70
Balance useful life at the beginning of the year	E	7.00	6.00	5.00	4.00	3.00
Depreciation (annualized)	**F=D/E**	**2802.99**	**2901.17**	**3129.43**	**3217.36**	**3298.57**
Less: Cumulative depreciation adjustment on account of de-capitalization	G	79.18	643.36	57.41	156.28	11.04
Cumulative depreciation (at the end of the period)	H=(Cumulative Depreciation of Previous year) +F-G	**55477.58**	**57735.39**	**60807.41**	**63868.49**	**67156.01**

Operation & Maintenance Expenses

48. Regulation 29 (1) (c) of the 2014 Tariff Regulations provides the year-wise O&M

expense norms for the generating station as under:

(Rs. in lakh/MW)

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

49. Since the normative O&M expenses claimed by the Petitioner is in terms of the above Regulations, the claims are allowed as under:

(Rs. in lakh)

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

<u>Water Charges</u>

50. The first proviso to Regulation 29(2) of the 2014 Tariff Regulations provide 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:*

51. The Petitioner has claimed the actual water charges (inclusive of maintenance charges) in terms of Regulation 29 (2) of the 2014 Tariff Regulations, for the generating station as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
83.02	39.56	27.44	44.87	56.05

52. The Petitioner has submitted the details of the actual water charges in lines with the rates notified by the Uttar Pradesh Irrigation Department. The Petitioner as part of the additional submission has also submitted the Form 3B duly certified by the auditor. Accordingly, after the prudence check, of the details submitted by the actual water charges claimed in terms of Regulation 29(2) of the 2014 Tariff Regulations, are allowed for the generating station.

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
83.02	39.56	27.44	44.87	56.05

Capital spares

53. Regulation 29(2) of the 2014 Tariff Regulations provides as under:

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

54. As per the second proviso to Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has claimed total actual capital spares of Rs. 3598.27 lakh during the period 2014-19 (i.e., Rs. 188.72 lakh in 2014-15, Rs. 3332.86 lakh in 2015-16, Rs. 26.95 lakh in 2016-17, Rs. 25.27 lakh in 2017-18 and Rs. 24.47 lakh in 2018-19). The Petitioner has submitted that in order to meet the customers demand and to maintain high machine availability at all times by the generating station, units/ equipment's are taken under overhaul/ maintenance and inspected regularly for wear and tear. It has submitted that during such works, spares parts of equipment which became damaged/ unserviceable are replaced/ consumed so that the machine continue to perform at expected efficiency on sustained basis. The Petitioner has also submitted the year-wise details of the capital spares consumed by the generating station in terms of the last proviso to Regulation 29(2) of 2014 Tariff Regulations, under Form 17. It is observed that the Petitioner in Form 9Bi for 2015-16, has claimed the decapitalisation of capital spares not part of capital cost of Rs. 98.27 lakh and decapitalisation of capital spares part of capital cost of Rs. 574.03 lakh, and in Form 17, the Petitioner has claimed decapitalisation of spares not part of capital cost of Rs. 3332.86 lakh. In the absence of proper details, the decapitalisation of capitals spares not part of capital cost as claimed

in Form 9Bi is considered for the purpose of allowing capital spares in 2015-16. The details of the capital spares submitted by the Petitioner in Form 9Bi is as under:

(Rs. in lakh)

Year	Capital Spares (Part of capital cost) (A)	Capital Spares (Not part of capital cost) (B)	Total Capital Spares consumed (A) + (B)
2014-15	44.49	144.23	188.72
2015-16	3234.59	98.27	3332.86
2016-17	23.30	3.65	26.95
2017-18	20.15	5.12	25.27
2018-19	11.68	12.79	24.47
Total	**3334.21**	**264.06**	**3598.27**

55. We have examined the list of the capital spares consumed by the Petitioner. The capital spares comprise of (i) spares which form part of the capital cost and (ii) spares which do not form part of the capital cost of the project. In respect of capital spares which form part of the capital cost of the project, the Petitioner has been recovering tariff since their procurement and, therefore, the same cannot be allowed as part of the additional O&M expenses. Accordingly, only those capital spares, which do not form part of the capital cost of the project, are being considered. 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 if 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. The Commission is also of the view that spares of value less than Rs. one lakh would normally form part of normal repair and maintenance expenses. Based on this, the details of the allowed capital spares considered for 2014-19 tariff period is summarized as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares not part of capital cost claimed	144.23	98.27	3.65	5.12	12.79
Value of spares Rs 1(one) lakh and below are disallowed on individual basis	0.87	0.00	0.00	0.00	0.27
Net total value of capital spares considered	143.35	98.27	3.65	5.12	12.52

56. 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 period 2014-19. 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 under:

(Rs. In lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	143.35	98.27	3.65	5.12	12.52
Less: Salvage value @ 10%	14.34	9.83	0.37	0.51	1.25
Net Capital spares allowed	**129.02**	**88.44**	**3.29**	**4.61**	**11.27**

57. Based on the above, the total annualised O&M expenses allowed for 2014-19 tariff period in respect of the generating station, is summarized as under:

(Rs. In lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses as per Regulation 29(1)	6151.57	6537.35	6948.30	7384.40	7849.86
Additional O&M Expenses under Regulation 29(2)					
Capital Spares	129.02	88.44	3.29	4.61	12.52
Water Charges	83.02	39.56	27.44	44.87	56.05
Total O&M Expenses allowed	**6363.61**	**6665.36**	**6979.03**	**7433.89**	**7918.43**

Impact of Goods and Service Tax (GST)

58. The Petitioner has claimed Rs. 76.42 lakh during 2017-18 and Rs. 102.58 lakh during 2018-19 on account of GST. It is observed that the Commission while specifying

the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from para 49.6 of the SOR to the 2014 Tariff Regulations, which is extracted as follows:

> *"49.6 With regards to suggestion received on other taxes to be allowed, the Commission while approving the norms of O&M expenses has considered the taxes as part of O&M expenses while working out the norms and therefore the same has already been factored in..."*

59. Further, the escalation rates considered in the O&M expense norms under the 2014 Tariff Regulations is only after accounting for the variations during the past five years of the 2014-19 tariff period, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties, no reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST.

Impact of wage revision

60. The Petitioner has claimed an amount of Rs. 3578.82 lakh (Rs. 46.89 lakh in 2015-16, Rs. 1017.54 lakh in 2016-17, Rs. 1186.84 lakh in 2017-18 and Rs. 1327.55 lakh in 2018-19) as impact of wage revision of employees of CISF and Kendriya Vidyalya Staff from 1.1.2016 and employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional PRP/ ex-gratia to its employee's consequent upon wage revision. As such, as per consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for finalization of O&M norms for various tariff settings, the additional PRP/ ex-gratia paid, as a result of wage revision impact, has been excluded from the wage revision impact claimed by the Petitioner in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 3206.29 lakh with the following

year-wise break-up:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed excluding PRP/ ex-gratia	46.90	1017.54	1111.19	1030.66	3206.28

61. The Petitioner vide its affidavit dated 28.6.2021 has submitted the following:

> *(a) Comparative table indicating the actual O&M expenses incurred at this generating station versus the normative O&M expenses allowed for the 2014-19 tariff period for the whole generating station;*
>
> *(b) Actual impact of pay revision duly certified by Auditor, Expenses after comparing salaries wages before and after pay revision; and*
>
> *(c) Detailed break-up of the actual O&M expenses booked by the Petitioner on gross basis*

62. The Commission, while specifying the O&M expense norms under the 2014 Tariff Regulations, had considered the actual O&M expense data for the period from 2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission in the Statement of Object and Reasons (SOR) to the 2014 Tariff Regulations had observed that the increase in employees cost due to impact of pay revision impact will be examined on a case to case basis balancing the interest of generating stations and the consumers. The relevant extract of SOR is extracted as follows:

> *"29.26 Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macroeconomics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately,* ***the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.***
>
> *33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted.* ***The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are***

***inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement.*”**

63. The methodology indicated in the SOR above suggests a comparison of the normative O&M expenses with the actual O&M expenses, on a year to year basis. However, in this respect, the following facts need consideration:

a) The norms are framed based on the averaging of the actual O&M expenses of past five years to capture the year on year variations in sub-heads of O&M;

b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;

c) Then generating companies find that their actual expenditure has gone beyond the normative O&M expenses in a particular year put departmental restrictions and try to bring the expenditure for the next year below the norms.

64. As such, in consideration of above facts, we find it appropriate to compare the normative O&M expenses with the actual O&M expenses for a longer duration so as to capture the variation in the sub-heads. Accordingly, it is decided that for ascertaining that whether the O&M expense norms provided under the 2014 Tariff Regulations are inadequate/ insufficient to cover all justifiable O&M expenses including employee expenses, the comparison of the normative O&M expenses and the actuals O&M expenses incurred shall be made for 2015-19 on a combined basis which is commensurate with the wage revision claim being spread over these four years.

65. The submissions of the parties and the documents available on record is examined. The Petitioner has furnished the detailed break-up of the actual O&M expenses incurred during the 2014-19 tariff period for the generating station. It is noticed that the total O&M expenses incurred is more that the normative O&M expenses recovered during each year of the period 2014-19. The impact of the wage revision could not be factored by the Commission while framing the O&M expenses norms under the 2014-19 Tariff Regulations since the pay/ wage revision came into effect from 1.1.2016 (CISF & KV

employees) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of relevant provisions of SOR of the 2014 Tariff Regulations, the approach followed for arriving at the allowable impact of pay revision is given in the subsequent paragraphs.

66. First step is to compare the normative O&M expenses with the actual O&M expenses for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fees, ex-gratia, loss of provisions, prior period expenses, community development, store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/ details) which were not considered while framing the O&M expenses norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate centre. Having brought the normative O&M expenses and actual O&M expenses at same level, if normative O&M expenses for the period 2015-19 are higher than actual O&M expenses (normalized) for the same period, the impact of wage revision (excluding PRP and ex-gratia) as claimed for the period is not admissible/ allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are less than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

22. In this regard, the details as furnished by the Petitioner for actual O&M expenses for the generating station (419.33 MW) and wage revision impact (excluding PRP and ex-gratia) for the generating station are as follows:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total for 2015-19
Actual O&M expenditure (normalized) for the generating station (A)	10114	9172	9664	9994	38944.62
Normative O&M Expenses for the generating station (B)	6537	6948	7384	7850	28719.91
Under-recovery (C) = (B) -(A)	(-) 3577	(-) 2224	(-) 2280	(-) 2144	(-) 10224.71

67. As stated, for like to like comparison of the actual O&M expenses and normative O&M expenses, the expenditure against O&M expenses sub-heads as discussed above, has been excluded from the actual O&M expenses to arrive at the actual O&M expenses (normalized) for the generating station. Accordingly, the following table portrays the comparison of normative O&M expenses versus the actual O&M expenses (normalized) along with wage revision impact claimed by the Petitioner for the generating station for period 2015-19 commensurate with the wage revision claim being spread over these four years:

(Rs. in lakh)

Sl. No		2015-16	2016-17	2017-18	2018-19	Total for 2015-19
1	Actual O&M expenditure (normalized) for the generating station (a)	8374.01	8130.71	8543.57	8734.88	33783.18
2	Normative O&M Expenses for the generating station (b)	6537.35	6948.30	7384.40	7849.86	28719.91
	Under-recovery (c) = (b)-(a)	(-) 1836.65	(-) 1182.41	(-) 1159.17	(-) 885.03	(-) 5063.27
3	Wage revision impact excluding PRP/ ex-gratia claimed	46.90	1017.54	1111.19	1030.66	3206.29
4	Wage revision impact excluding PRP/ ex-gratia **allowed**	46.90	1017.54	1111.19	1030.66	3206.29

68. It is observed that for the period from 2015-16 to 2018-19, the normative O&M expenses is lesser than the actual O&M expenses (normalized) incurred and the under recovery is to the tune of Rs. 5063.27 lakh, which also includes the under recovery of Rs. 3206.29 lakh due to wage revision impact. As such, in terms of methodology as discussed above, the wage revision impact (excluding PRP/incentive) of Rs. 3206.29 lakh is allowed for the generating station. Accordingly, we, in exercise of the Power under Regulation 54 of the 2014 Tariff Regulations, relax Regulation 29(1) of the 2014 Tariff Regulations, and allow the reimbursement of the wage revision impact amounting to Rs. 3206.29 lakh, as additional O&M expenses for the period 2015-19. The arrear payments on account of the wage revision impact are payable by the beneficiaries in twelve equal monthly instalments during 2021-22. Keeping in view the consumer interest, we as a special case, direct that no interest shall be charged by the Petitioner on the arrear payments on the wage revision impact allowed in this order. This arrangement, in our view, will balance the interest of both the Petitioner and the Respondents. Also, considering the fact that the impact of wage revision is being allowed in exercise of the power to relax, the expenses allowed are not made part of the O&M expenses and the consequent annual fixed charges determined in this order. Based on the above discussions, the total annualized O&M expenses allowed 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**
Installed Capacity (MW) (A)		419.33	419.33	419.33	419.33	419.33
O&M Expenses under Reg.29(1) in Rs. lakh / MW (B)		14.67	15.59	16.57	17.61	18.72
Total O&M Expenses (in Rs. lakh) (C) = (A)*(B)	Claimed	6151.57	6537.35	6948.30	7384.40	7849.86
	Allowed	6151.57	6537.35	6948.30	7384.40	7849.86
Water Charges (in Rs. lakh) (D)	Claimed	83.02	39.56	27.44	44.87	56.05
	Allowed	83.02	39.56	27.44	44.87	56.05
	Claimed	188.72	3332.86	26.95	25.27	24.47

		2014-15	2015-16	2016-17	2017-18	2018-19
Capital Spares Consumed (in Rs. lakh) (E)	Allowed	129.02	88.44	3.29	4.61	12.52
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)	Claimed	**6423.30**	**9909.77**	**7002.69**	**7454.55**	**7930.38**
	Allowed	6363.61	6665.36	6979.03	7433.89	7918.43
Additional O&M Expenses						
Impact of Wage Revision (in Rs. lakh) (G)	Claimed	0.00	46.89	1017.54	1186.84	1327.55
	Allowed	0.00	46.90	1017.54	1111.19	1030.66
Impact of GST (in Rs. lakh) (H)	Claimed	0.00	0.00	0.00	76.42	102.58
	Allowed	0.00	0.00	0.00	0.00	0.00
Sub Total Additional O&M Expenditure (I) = (G+H)	Claimed	0.00	46.89	1017.54	1263.26	1430.13
	Allowed	**0.00**	**46.90**	**1017.54**	**1111.19**	**1030.66**
Total O&M Expenses in Rs. lakh (J) = (F+I)	Claimed	6423.30	9956.66	8020.23	8717.81	9360.51
	Allowed	**6363.61**	**6712.26**	**7996.57**	**8545.08**	**8949.09**

Operational Norms

(a) Normative Annual Plant Availability Factor

69. The Normative Annual Plant Availability Factor of 85% claimed for the period from 2014-15 to 2018-19, is in accordance with the provisions of Regulation 36 (A) of the 2014 Tariff Regulations and hence allowed.

(b) Auxiliary Energy Consumption:

70. The Normative Auxiliary Energy Consumption of 2.50% claimed by the Petitioner is in accordance with the provisions of Regulation 36(E)(c) of the 2014 Tariff Regulations and hence, allowed.

(c) Station Heat Rate

71. The Gross Station Heat Rate of 2075 kCal/ kWh claimed is in accordance with the provisions of Regulation 36(C)(a)(vi) of the 2014 Tariff Regulations and hence, allowed.

Interest on Working Capital

72. Sub-section (b) of clause (1) of 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) Maintenance spares @ 30% of operation and maintenance expense specified in regulation 29; and
(iii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel";
(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;
(v) Operation and maintenance expenses for one month."

(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."

(a) Fuel Cost and Energy Charges for Working Capital

73. The Fuel cost for 30 days of generation at NAPAF and Energy charges for two months of generation at NAPAF have been calculated based on the Gross Calorific Value (GCV) and Price of Gas, as considered in Order dated 19.9.2016 in Petition No. 287/GT/2014. The Petitioner has also considered same while computing the Energy Charges claimed.

Energy/ Variable Charges

74. The Petitioner vide affidavit dated 23.12.2019 has claimed Energy Charge Rate (ECR) of 286.50 paisa/kWh based on the weighted average price and GCV of domestic gas, RLNG and Naphtha used for operation of the plant during the preceding three

months i.e. January, 2014, February, 2014 and March, 2014. Based on the norms of operation, GCV & price of domestic Gas, RLNG & Naphtha and mode of operation for the preceding three months are as follows:

Landed Fuel Cost (Domestic Gas)	Rs/1000SCM	12326.23
(%) of Fuel Quantity	(%)	99.17%
Landed Fuel Cost (RLNG)	Rs/1000SCM	37936.29
(%) of Fuel Quantity	(%)	0.83%
Landed Fuel Cost (Liquid Fuel)	Rs/Kl	43180.09
(%) of Fuel Quantity	(%)	0.00%
Secondary fuel oil cost (ex-bus)	Rs/kWh	NA
Energy Charge Rate (Gas) ex-bus-CC	Rs/kWh	2.817
Energy Charge Rate (LNG) ex-bus-CC	Rs/kWh	8.583
Energy Charge Rate (Naptha) ex-bus-CC	Rs/kWh	8.111
Weighted Average Energy Charge Rate ex-bus-CC	Rs/kWh	2.865

75. Based on the operational norms, the price and GCV of the generating station during the preceding months i.e., January, 2014, February 2014 and March, 2014, the ECR, for the purpose of working capital has been worked out as Rs. 2.865/kWh and is allowed for the period 2014-19.

76. The Commission vide its order dated 19.9.2016 in Petition No. 287/GT/2014 had allowed 'Zero' Liquid Fuel stock for 15 days for the period 2014-19, based on the observation that the Petitioner has not supported its claim for the submission by working out the cost for the liquid fuel stock. Since the claim of the Petitioner is similar to the approach adopted by the Commission in the above said order, the same is adopted in the present order. Accordingly, the fuel cost for 30 days, Liquid Fuel stock for 15 days and Energy Charges allowed are as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Primary Fuel (APM & LNG) cost for 30 days	7168.72	7168.72	7168.72	7168.72	7168.72
Liquid Fuel (Naptha) stock for 15 days	0.00	0.00	0.00	0.00	0.00
Energy charges for two months corresponding to NAPAF	14536.56	14576.38	14536.56	14536.56	14536.56

(b) Working Capital for Maintenance Spares

77. The Petitioner in Form-13B has claimed maintenance spares for working capital as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1926.99	2987.00	2406.07	2615.34	2808.15

78. Regulation 28(1)(b) (iii) of the 2014 Tariff Regulations provide for maintenance spares @ 30% of the O & M expenses. In terms of Regulation 29(2) of the 2014 Tariff Regulations, the cost of maintenance spares @30% of the O&M expenses including water charges and cost of capital spares consumed, are allowed as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1909.08	1999.61	2093.71	2230.17	2375.53

(c) Working Capital for Receivables

79. Regulation 28(1)(b)(iv) of the 2014 Tariff Regulations provides for Receivables for two months of capacity and energy charges corresponding to NAPAF. Accordingly, the Receivable component for working capital is allowed as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Energy e Charges - for two months corresponding to NAPAF (A)	14536.56	14576.38	14536.56	14536.56	14536.56
Capacity Charges – for two months (B)	3264.98	3336.89	3426.06	3516.78	3652.00
Total (C) = (A+B)	**17801.53**	**17913.28**	**17962.61**	**18053.33**	**18188.56**

(d) Working Capital for O & M Expenses

80. O&M expenses for 1 month as claimed by the Petitioner in Form-13B for the purpose of working capital is as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
535.28	829.72	668.35	726.48	780.04

81. Regulation 28(1)(b)(v) of the 2014 Tariff Regulations provides for Operation & Maintenance expenses for one month as a part of the working capital. The O&M expenses, for one month, as allowed is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
530.30	555.45	581.59	619.49	659.87

(e) Rate of interest on working capital

82. 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 of 10.00% + 350 bps). Accordingly, Interest on working capital has been computed as follows:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Fuel cost for 30 days	A	7168.72	7168.72	7168.72	7168.72	7168.72
Working capital for Liquid Fuel cost for 15 days	B	0.00	0.00	0.00	0.00	0.00
Working capital for Maintenance Spares @ 30% of O&M expenses	C	1909.08	1999.61	2093.71	2230.17	2375.53
Working capital for Receivables corresponding to NAPAF (2 months)	D	17801.53	17913.28	17962.61	18053.33	18188.38
Working capital for O&M expenses for 1 month	E	530.30	555.45	581.59	619.49	659.87
Total Working Capital	F=A+B+C+D+E	**27409.64**	**27637.05**	**27806.63**	**28071.71**	**28392.68**
Rate of Interest	G	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital	H=F*G	**3700.30**	**3731.00**	**3753.90**	**3789.68**	**3832.99**

<u>Annual Fixed Charges for the period 2014-19</u>

83. Based on the above, the annual fixed charges approved for the generating station for the period 2014-19 (after truing -up) is summarised below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2802.99	2901.17	3129.43	3217.36	3298.57
Interest on Loan	176.72	128.22	81.06	31.82	212.87
Return on Equity	6546.24	6595.62	6612.95	6627.89	6648.11
Interest on Working Capital	3700.30	3731.00	3753.90	3789.68	3832.99
O&M Expenses	6363.61	6665.36	6979.03	7433.89	7918.43
Total annual fixed charges approved	**19589.86**	**20021.37**	**20556.36**	**21100.63**	**21910.97**
Total annual fixed charges approved in Order dated 19.6.2016 in Petition No. 287/GT/2014	19454.40	20166.92	20857.64	21374.65	21835.86

84. The difference between the annual fixed charges already recovered by the Petitioner in terms of the order dated 19.6.2016 in Petition No. 287/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 (13) of the 2014 Tariff Regulations.

85. Petition No. 369/GT/2020 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S. Jha)**
Member	**Member**	**Member**