

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 452/GT/2020

Coram:

**Shri P.K. Pujari, Chairperson
Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 29th May, 2022

In the matter of:

Petition for revision of tariff of Sipat Super Thermal Power Station Stage-II (1000 MW) for the period from 1.4.2014 to 31.3.2019, after truing up exercise.

And

In the matter of

NTPC Limited,
NTPC Bhawan, Core-7,
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110003

....**Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur – 482 008
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, Bandra (East),
Mumbai – 400 051
3. Gujarat Urja Vikas Nigam Limited,
2nd Floor, Sardar Patel Vidyut Bhawan, Race Course,
Vadodara – 390 007
4. Chhattisgarh State Power Distribution Company Limited,
Vidyut Sewa Bhawan, Dagania,
Raipur – 492 001
5. Electricity Department,
Government of Goa, Vidyut Bhawan,
Panaji, Goa – 403 001



6. DNH Power Distribution Corporation Limited,
UT of DNH, Silvassa – 396 230
7. Electricity Department,
Administration of Daman & Diu,
Daman – 396 210

.... Respondents

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
Shri Anand K. Ganesan, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Jai Dhanani, Advocate, NTPC
Shri Arvind Banerjee, CSPDCL
Shri Anurag Naik, MPPMCL

ORDER

This petition has been filed by the Petitioner, NTPC Limited for truing up of tariff of Sipat Super Thermal Power Station, Stage-II (2 x 500 MW) (hereinafter referred to as 'the generating station') for the period from 1.4.2014 to 31.3.2019, in accordance with Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as 'the 2014 Tariff Regulations').

2. The generating station with a capacity of 1000 MW comprises of two units of 500 MW each. The dates of commercial operation of the different units of the generating station are as under:

	COD
Unit-I	20.6.2008
Unit-II/Generating Station	1.1.2009

3. The Commission vide its order dated 21.3.2017 in Petition No. 322/GT/2014 had approved the tariff of the generating station for the 2014-19 tariff period and the same was subsequently revised vide order dated 15.12.2017 in Review Petition No.



28/RP/2017 in Petition No. 322/GT/2014. Accordingly, the annual fixed charges and the capital cost allowed vide order dated 15.12.2017 is as under:

Annual Fixed Charges allowed

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	21860.49	21886.28	21886.28	21926.85	21967.43
Interest on Loan	14867.38	13358.26	12231.18	10697.77	8814.50
Return on Equity	25356.43	25509.32	25509.32	25556.62	25603.91
Interest on Working Capital	5915.16	5958.36	5993.75	6108.88	6142.76
O&M Expenses	20391.28	21495.91	22565.91	23705.91	24915.91
Total	88390.73	88208.13	88186.44	87996.03	87444.50

Capital Cost allowed

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	430503.32	431520.32	431520.32	431520.32	433120.32
Add: Projected additional capital expenditure	1017.00	0.00	0.00	1600.00	0.00
Closing capital cost	431520.32	431520.32	431520.32	433120.32	433120.32
Average capital cost	431011.82	431520.32	431520.32	432320.32	433120.32

Present Petition

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, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”

5. In terms of above regulations, the Petitioner, in the present petition, has claimed the following annual fixed charges and capital cost:

Capital Cost claimed

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	430503.32	431728.32	432884.99	432943.91	433050.41
Add: Addition during the year	935.62	265.08	139.34	98.93	92.01
Less: De-capitalization during the year	44.42	36.35	115.42	262.20	245.47
Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year	333.80	927.94	35.00	269.77	267.78
Closing capital cost	431728.32	432884.99	432943.91	433050.41	433164.73
Average capital cost	431115.82	432306.66	432914.45	432997.16	433107.57



Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	22374.91	22100.67	22133.47	22133.82	22133.53
Interest on Loan	15004.10	12934.37	11249.03	8964.20	7373.57
Return on Equity	25363.84	25555.81	25591.74	25596.63	25672.02
Interest on Working Capital	6602.67	6637.63	6750.88	6954.36	6885.29
O&M Expenses	20645.89	21875.51	22839.09	24458.52	24497.11
Sub-total	89991.42	89103.98	88564.22	88107.53	86561.52
Impact of Pay Revision *	0.00	30.00	1017.00	1238.00	1629.00
Impact of GST	0.00	0.00	0.00	148.00	206.00
Ash Transportation Expenditure	0.00	0.00	0.00	0.00	# 160.00
Water Charges for period prior to 2016	0.00	0.00	570.33	1197.68	0.00
Total Additional O&M Expenditure	0.00	30.00	1587.33	2583.68	1995.00
Total	89991.42	89133.98	90151.55	90691.21	88556.52

* Subsequently, the Petitioner vide affidavit dated 4.6.2021 furnished the exact values up to two place decimals as Rs.30.20 lakh in 2015-16, Rs.1016.64 lakh in 2016-17, Rs.1237.76 lakh in 2017-18 and Rs.1628.79 lakh in 2018-19. The same has been considered as the Petitioner's claim.

Actual value up to two place decimals is Rs.159.52 lakh.

6. The Respondent, MPPMCL and Respondent CSPDCL have filed their replies vide affidavits dated 14.8.2020 respectively and the Petitioner vide affidavits dated 27.5.2021 has filed its rejoinder to the said replies. The Respondent, MSEDCL vide affidavit dated 17.8.2020 has filed its reply and the Petitioner vide affidavit dated 27.5.2021 has filed its rejoinder to the said reply. The Commission vide ROP of the hearing dated 11.6.2021 directed the Petitioner to file certain additional information. This Petition, along with Petition No.435/GT/2020 (tariff of the generating station for 2019-24 tariff period) was subsequently heard through video conferencing on 30.11.2021 and the Commission, after directing the Petitioner to file additional information on 'the percentage of fly ash utilization during the 2014-19 tariff period', reserved its order in these petitions. The Petitioner in compliance to the ROP dated 11.6.2021, has submitted the additional information vide affidavit dated 2.7.2021. The



Petitioner has also submitted the detailed note of the argument made during the hearing dated 30.11.2021. The Petitioner vide affidavit dated 15.12.2021 has submitted the additional information as regards fly ash utilization. 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 2014-19 tariff period, in this Petition, as stated in the subsequent paragraphs.

Capital Cost

7. Regulation 9(1) of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check, in accordance with this regulation, shall form the basis of determination of tariff for existing and new projects.

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

“(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 Regulations 14;*
- (c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15.”*

8. The Commission vide order dated 21.3.2017 in Petition No. 322/GT/2014 revised vide order dated 15.12.2017 in 28/RP/2017 in Petition No. 322/GT/2014 had approved the annual fixed charges of the generating station for the 2014-19 tariff period considering the opening capital cost of Rs.430503.32 lakh (on cash basis, after removal of un-discharged liabilities of Rs.4255.86 lakh) as on 1.4.2014. Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs.430503.32 lakh has been considered as opening capital cost as on 1.4.2014.

9. Regulation 14 of the 2014 Tariff Regulations, provides as under:



“14. Additional Capitalization and De-capitalization:

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

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

(ii) Works deferred for execution;

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

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

(v) Change in law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”

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

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

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal /lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out



by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

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

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

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

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

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

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

10. The Commission vide its order dated 21.3.2017 in Petition No. 322/GT/2014 had allowed the following projected additional capital expenditure under Regulation 14(3)(iv) of the 2014 Tariff Regulations as under:

	(Rs. in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1 st raising of Ash Dyke	1017.00	0.00	0.00	0.00	0.00	1017.00
2 nd raising of Ash Dyke	0.00	0.00	0.00	1600.00	0.00	1600.00
Total projected additional capital expenditure allowed	1017.00	0.00	0.00	1600.00	0.00	2617.00



11. The additional capital expenditure claimed by the Petitioner, duly supported by auditor certificate, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Closing Gross Block as per audited books	1410954.33	1443035.73	*1161027.25	*1169438.51	*1179607.83
Less: Opening Gross Block as per audited books	1380948.98	1410954.33	*1151899.48	*1161027.25	*1169438.51
Additional capital expenditure as per audited books	30005.35	32081.40	*9127.77	*8411.27	*10169.32
Less: Additional capital expenditure pertaining to other Stages	26357.45	26850.12	6608.20	7259.90	9212.85
Additional capital expenditure for the generating station	3647.90	5231.28	2519.57	1151.36	956.47
Add: IND AS Adjustment	0.00	0.00	(-) 1506.31	(-) 367.92	(-) 757.49
Additional capital expenditure as per IGAAP for the generating station	3647.90	5231.28	1013.25	783.44	198.98
Less: Exclusions	2676.45	5001.28	982.92	898.26	352.44
Additional capital expenditure claimed for the generating station (on accrual basis)	971.45	230.00	30.33	(-) 114.82	(-)153.46
Less: Un-discharged liabilities included in above	80.25	1.26	6.41	48.46	0.00
Net additional capital expenditure claimed for the generating station (on cash basis)	891.20	228.73	23.92	(-) 163.27	(-)153.46



Add: Discharge of liabilities	333.80	927.94	35.00	269.77	267.78
Net additional capital expenditure claimed including discharges (on cash basis)	1225.00	1156.68	58.92	106.50	114.32

* As per IND-AS

Exclusions

12. The summary of exclusions from books of accounts, claimed, on accrual basis, for the 2014-19 tariff period is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares	2291.56	1650.36	1237.76	425.94	483.19
De-capitalization of spares (not part of capital cost)	(-) 210.19	(-) 343.34	0.00	0.00	0.00
Loan FERV	2140.27	4185.16	(-) 33.44	(-) 46.81	0.00
Inter-unit transfer of assets	(-) 976.73	0.00	(-) 3.73	831.04	0.00
Plant and Machinery	69.04	0.00	0.00	0.00	0.00
Capitalization of Miscellaneous Bought Out Assets (MBOA)	0.00	3.23	0.00	0.71	0.00
De-capitalization of MBOA's (part of capital cost)	(-) 60.20	(-) 53.21	(-) 56.24	(-) 91.72	(-) 75.49
De-capitalization of Wagons (part of capital cost)	0.00	0.00	0.00	(-) 208.47	0.00
Reversal of liabilities	(-) 577.30	(-) 440.92	(-) 161.44	(-) 12.44	(-) 55.26
Total Exclusions claimed	2676.45	5001.28	982.92	898.26	352.44

13. We examine the exclusions claimed by the Petitioner in the subsequent paragraphs.

(a) Capitalization of capital spares

14. The Petitioner has claimed exclusion of capital spares of Rs.2291.56 lakh in 2014-15, Rs.1650.36 lakh in 2015-16, Rs.1237.76 lakh in 2016-17, Rs.425.94 lakh in 2017-18 and Rs.483.19 lakh in 2018-19. In justification the Petitioner has submitted that capital spares capitalized after cut-off date are not allowable as per the 2014 Tariff Regulations and accordingly the same has been claimed as exclusions. Since



capitalization of spares after the cut-off date of the generating station is not allowed as part of the capital cost in terms of the 2014 Tariff Regulations, the Petitioner's claim for exclusion under this head is allowed.

(b) De-capitalization of capital spares (not part of capital cost)

15. The Petitioner has claimed exclusion of de-capitalization of capital spares of Rs.210.19 lakh in 2014-15 and Rs.343.34 lakh in 2015-16. In justification the Petitioner submitted that these capital spares do not form part of the capital cost and accordingly their de-capitalization has been claimed as exclusions. The Commission, in its various orders, had consistently allowed the exclusion of de-capitalization of assets not forming part of the admitted capital cost. Accordingly, the Petitioner's claim under this head is allowed.

(c) Loan FERV

16. The Petitioner has claimed exclusion of loan FERV of Rs.2140.27 lakh in 2014-15, Rs.4185.16 lakh in 2015-16, (-) Rs.33.44 lakh in 2016-17, and (-) Rs.46.81 lakh in 2017-18. In justification for the same the Petitioner submitted that since the loan FERV is billed directly to the beneficiaries as per extant regulations, the same has been kept under exclusion. As the Petitioner is required to bill the claim for loan FERV directly on the beneficiaries, the Petitioner's claim under this head is allowed.

(d) Inter-unit transfer of assets

17. The Petitioner has claimed exclusion of (-) Rs.976.73 lakh in 2014-15, (-) Rs.3.73 lakh in 2016-17 and Rs.831.04 lakh in 2017-18, on account of inter-unit transfer of assets to/from the generating station. In justification of the same the Petitioner has submitted that temporary inter-unit transfer of assets is not allowed for the purpose of tariff and accordingly, the same has been kept under exclusion. The Commission, in its various orders, had consistently allowed the exclusion of both positive and negative



inter-unit transfer of assets of a temporary nature for the purpose of tariff. Accordingly, Petitioner's claim under this head is allowed.

(e) Plant & Machinery

18. The Petitioner has claimed exclusion of additional capital expenditure of Rs.69.04 lakh in 2014-15 pertaining to capitalization of Plant & Machinery. In justification for the same, the Petitioner has submitted that minor assets are not allowed after the cut-off date. Since capitalization of minor assets after the cut-off date of the generating station is not allowed as part of the capital cost, in terms of the 2014 Tariff Regulations, the Petitioner's claim for exclusion under this head is allowed.

(f) Capitalization of MBOAs

19. The Petitioner has claimed exclusion of additional capital expenditure of Rs.3.23 lakh in 2015-16 and Rs.0.71 lakh in 2017-18 pertaining to capitalization of MBOA's. In justification for the same, the Petitioner has submitted that minor assets are not allowed as per Regulations. Since capitalization of MBOA's after the cut-off date of the generating station is not allowed as part of the capital cost, in terms of the 2014 Tariff Regulations, the Petitioner's claim for exclusion under this head is allowed.

(g) De-capitalization of MBOA's (forming part of capital cost)

20. The Petitioner has claimed exclusion of de-capitalization of MBOA's, forming part of the admitted capital cost of the generating station for Rs.60.20 lakh in 2014-15, Rs.53.21 lakh in 2015-16, Rs.56.24 lakh in 2016-17, Rs.91.72 lakh in 2017-18 and Rs.75.49 lakh in 2018-19. In justification, the Petitioner has submitted that, as the capitalization of expenditure against these items are not allowed, their de-capitalization has been claimed as exclusions. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such asset are



required to be removed from the admitted capital cost of the generating station. Accordingly, the exclusion claimed under this head is not allowed.

(h) De-capitalization of Wagons (forming part of capital cost)

21. The Petitioner has claimed exclusion of de-capitalization of Wagons, which form part of the admitted capital cost of the generating station for Rs.208.47 lakh in 2017-18. In justification for the same, the Petitioner has submitted that since the capitalization of these items are not allowed as replacement, their de-capitalization has been claimed as exclusion. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such assets, are required to be removed from the admitted capital cost of the generating station. Accordingly, the exclusion claimed under this head is not allowed.

(i) Reversal of liabilities

22. The Petitioner has claimed exclusion of reversal of liabilities of (-) Rs.577.30 lakh in 2014-15, (-) Rs.440.92 lakh in 2015-16, (-) Rs.161.44 lakh in 2016-17, (-) Rs.12.44 lakh in 2017-18 and (-) Rs.55.26 lakh in 2018-19. In justification for the same, the Petitioner has submitted that since tariff is allowed on cash basis, the reversal of the liabilities has been kept under exclusion. Since tariff is allowed on cash basis, the Commission, in its various orders, had consistently allowed the exclusion of reversal of un-discharged liabilities for the purpose of tariff. Accordingly, the Petitioner's claim under this head is allowed.

(j) Ind-AS Adjustment (Overhauling)

23. As regards the expenditure on overhauling, the Petitioner has indicated an expenditure of Rs.1404.78 lakh in 2016-17, Rs.426.19 lakh in 2017-18 and Rs.559.08 in 2018-19, with corresponding negative entries of same amount, as IND-AS adjustment. As such, after adjustment, the net claim against overhauling reduces to



zero as per IGAAP. Considering the fact that the expenditure on overhauling form part of the normative expenditure, the accounting adjustment leading to zero expenditure is in order and does not impact the claim made by the Petitioner.

24. Based on above, the summary of exclusions allowed and disallowed for the 2014-19 tariff period is as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares	2291.56	1650.36	1237.76	425.94	483.19
De-capitalization of spares (not part of capital cost)	(-) 210.19	(-) 343.34	0.00	0.00	0.00
Loan FERV	2140.27	4185.16	(-) 33.44	(-) 46.81	0.00
Inter-unit transfer of assets	(-) 976.73	0.00	(-) 3.73	831.04	0.00
Plant and Machinery	69.04	0.00	0.00	0.00	0.00
Capitalization of Miscellaneous Bought Out Assets (MBOA)	0.00	3.23	0.00	0.71	0.00
Reversal of liabilities	(-) 577.30	(-) 440.92	(-) 161.44	(-) 12.44	(-) 55.26
Total Exclusions allowed	2736.65	5054.49	1039.16	1198.45	427.93
Total Exclusions disallowed	(-) 60.20	(-) 53.21	(-) 56.24	(-) 300.19	(-) 75.49

Additional Capital Expenditure

25. The Petitioner, in Form-9A, has submitted the actual additional capital expenditure claimed for the 2014-19 tariff period, as under:

<i>(Rs. in lakh)</i>						
	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19
Already allowed items						
Works FERV*	14(3)(v)	0.00	0.00	0.00	0.00	0.00
Ash Dyke raising work	14(3)(iv)	743.99	89.74	38.08	28.40	0.00
New claims						
Off-site Civil	14(3)(v)	1.38	1.63	0.00	8.42	3.51
SG Civil work	&	38.99	12.44	3.31	0.25	0.00
Turbine Generator – Civil	54	15.69	8.96	0.97	0.00	0.24
Land		0.00	8.03	9.33	1.75	42.73
400 KV S-Yard		8.90	0.00	0.00	0.00	0.00
Fire Detection and Protection System		24.93	0.00	0.00	0.00	44.51
Steam Generator		80.64	0.00	0.00	0.00	0.00
Township	14(3)(v)	13.36	72.04	63.02	0.00	1.02
Turbine Generator		1.44	0.00	0.00	0.00	0.00
Cabling		0.00	5.75	0.00	0.00	0.00



CPU		0.00	38.99	0.00	0.00	0.00
CT – Civil	14(3)(v)	0.00	0.05	0.00	0.00	0.00
Raw Water Reservoir *		0.00	0.00	0.00	0.00	0.00
Ash Handling plant	14(3)(iv)	6.31	2.83	0.58	0.00	0.00
Effluent Quality Monitoring System (EQMS)	14(3)(ii)	0.00	26.26	0.00	0.00	0.00
Continuous Emission Monitoring System (CEMS)		0.00	0.00	24.06	0.00	0.00
Civil work of Ash Dyke	14(3)(i)	0.00	0.00	0.00	19.68	0.00
Chimney		0.00	0.00	0.00	40.43	0.00
De-capitalization						
De-capitalization of spares (part of capital cost)	14(4)	(-) 44.42	(-) 36.35	(-) 115.42	(-) 262.20	(-) 245.47
Additional capital expenditure claimed (before discharges of liabilities)		891.20	# 228.73	23.92	(-) 163.27	(-) 153.46
Add: Discharge of Liabilities	14(3)(vi)	333.80	927.94	35.00	269.77	267.78
Net Additional capital expenditure claimed (including discharges of liabilities)		1225.00	1156.68	58.92	106.50	114.32

Considering the sum of individual assets above this sum works out to Rs.230.37 lakh. Thus, sum of individual assets as claimed in Form-9A exceeds the Petitioner's claim, as detailed under paragraph 11 of this order, by Rs.1.63 lakh.

26. It is observed from the above, that the sum of individual assets as claimed in 2015-16 exceeds the Petitioner's claim based on the auditor certified reconciliation by Rs.1.63 lakh. Accordingly, this un-reconciled gap of Rs.1.63 lakh shall be deducted from the admissible additional capital expenditure for 2015-16. We now examine the actual additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period as under:

(a) *Works ERV*

27. The Petitioner has not claimed any additional capital expenditure under this head during the 2014-19 tariff period, on cash basis. However, the claim during the said period is (-) Rs.117.47 lakh, on accrual basis. Since, the entire liability against these Works ERV is yet to be discharged, the claim on 'cash basis' is 'nil'. The Commission, in its various orders, had consistently considered and allowed package / works FERV for



the purpose of tariff. As the amount is un-discharged, the expenditure, allowable on 'cash basis' is 'nil' for the 2014-19 tariff period.

(b) *Ash Dyke raising work*

28. The Petitioner has claimed additional capital expenditure of Rs.743.99 lakh in 2014-15, Rs.89.74 lakh in 2015-16, Rs.38.08 lakh in 2016-17 and Rs.28.40 lakh in 2017-18 towards Ash Dyke raising work, under Regulation 14(3)(iv) of the 2014 Tariff Regulations, on cash basis. The corresponding un-discharged liabilities are Rs.49.48 lakh in 2014-15 and Rs.14.05 lakh in 2015-16 and the corresponding IDC amount is Rs.16.95 lakh in 2014-15. In justification of the same, the Petitioner has submitted that these claims on actual basis are against the work allowed on projected basis, in order dated 21.3.2017 in Petition No. 322/GT/2014. The Respondent, MPPMCL has objected to the capitalization under this head and has submitted that the Petitioner has not submitted any documentary evidence to show that the work is within the original scope of work. It has also submitted that the Petitioner has neither furnished any information of deferred liabilities nor any reason for withholding such payments. The Petitioner in its rejoinder has clarified that the Commission in its order dated 21.3.2017 had allowed the projected additional capital expenditure during the years 2014-15 and 2017-18 under Regulation 14(3)(iv) of the 2014 Tariff Regulations.

29. The matter has been considered. In our view, Ash Dyke raising work is a continuous process to be carried out from time to time, during the operating life of the plant, to ensure the successful running of the plant. It is noticed that as against the projected additional capital expenditure Rs.2617.00 lakh allowed, the Petitioner has claimed only Rs.900.21 lakh, on cash basis (after removal of un-discharged liabilities of Rs.63.53 lakh). Accordingly, the Petitioner's claim under this head is allowed.



(c) New Claims

30. The Petitioner has claimed additional capital expenditure of Rs.191.64 lakh (corresponding un-discharged liabilities is Rs.117.78 lakh and IDC is Rs.1.44 lakh) in 2014-15 under Regulation 14(3)(i) of the 2014 Tariff Regulations, Rs.175.34 lakh (corresponding un-discharged liabilities is Rs.17.66 lakh) in 2015-16 under Regulation 14(3)(ii) of the 2014 Tariff Regulations, Rs.101.26 lakh (corresponding un-discharged liabilities is Rs.6.42 lakh and IDC is Rs.1.50) in 2016-17 under Regulation 14(3)(iv) of the 2014 Tariff Regulations, Rs.70.53 lakh (corresponding un-discharged liabilities is Rs.48.46 lakh) in 2017-18 under Regulation 14(3)(v) of the 2014 Tariff Regulations, and Rs.92.01 lakh (corresponding un-discharged liabilities is 'nil') in 2018-19, on cash basis, under Regulation 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations, incurred after the cut-off date, on new claims.

31. The asset-wise total of the claim under the head new claims for the year 2015-16 works out to Rs.176.96 lakh as against the sub-total of Rs.175.34 lakh, as shown in the auditor certified Form-9A. As such, this un-reconciled additional claim of (-) Rs.1.63 lakh has been allowed for the purpose of tariff.

32. The Respondent, CSPDCL has submitted that the Petitioner's claim towards Off-site Civil, SG Civil work, TG Civil work and Land claimed under Regulation 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations, on the ground that these have been completed after the cut-off date (i.e. 31.3.2013) of the generating station, cannot be considered under Regulation 14 (3)(v) of the 2014 Tariff Regulations. The Respondent, MPPMCL has submitted that all additional capital expenditure claimed by the Petitioner, other than under Regulations 14(3)(i) to Regulation 14(3)(iv) of the 2014 Tariff



Regulations, cannot be considered for capitalization, as the same are required to be met from the Compensation allowance granted to the generating station. The Petitioner in its rejoinder has pointed out that these additional capital expenditure claims have been claimed under Regulation 54 (i.e. Power to Relax) for the following reasons:

	REASONS
Off-site civil works	This pertains to payment made to the contracting agencies for the minor work which were off loaded to other agencies. As the cut-off date of Sipat-II had already expired and as these were part of works under original scope therefore the same is being claimed by NTPC under Regulation 54 (i.e. Power to relax) of the 2014 Tariff Regulations.
SG civil works	
Turbine Generator civil works	
Land	The claim is related to balance payment released after the resolution of issue related to claims of land oustees. As the cut-off date of Sipat-II had already expired and these works were under original scope, therefore the same is being claimed by the petitioner under Regulation 54 (i.e. Power to Relax), of the 2014 Tariff Regulations.

33. We have considered the matter. The Petitioner has claimed additional capital expenditure of Rs.19.68 lakh towards Civil work of Ash Dyke and Rs.40.43 lakh towards Chimney in 2017-18 under Regulation 14(3)(i) of the 2014 Tariff Regulations. The expenditure for Civil work for ash dyke is based on an arbitration award dated 18.12.2017 for Rs.27.14 lakh, in respect of a dispute between the Petitioner and Shri R Murraka out of which an amount of Rs.19.68 lakh was paid in 2017-18. Further, the expenditure for Chimney is based on an arbitration award dated 17.11.2017 for Rs.38.53 lakh with 10% simple interest thereon w.e.f. 12.06.2017, in respect of a dispute between the Petitioner and M/s NBCC. Since the additional capital expenditure incurred as above, is towards the compliance of the arbitration award, the same are allowed under Regulation 14(3)(i) of the 2014 Tariff Regulations.

34. The Petitioner has also claimed additional capital expenditure of Rs 24.06 lakh towards Continuous Emission Monitoring System (CEMS) in 2016-17, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. It is observed that the Commission in its order



dated 24.2.2017 in Petition No. 342/GT/2014 (pertaining to tariff of Vindhyachal STPS, Stage-III for 2014-19 period) had allowed a similar claim of the Petitioner for CEMS for 2014-15 and 2015-16 considering the same as a statutory requirement, in terms of the guidelines issued by MoEF, GOI dated 6.4. 2011. In view of the same the additional capital expenditure claimed towards CEMS is allowed.

35. Similarly, the Petitioner has claimed additional capital expenditure of Rs.26.26 lakh in 2015-16 towards Effluent Quality Monitoring System (EQMS) under Regulation 14(3)(ii) of the 2014 Tariff Regulations in compliance with directions of Central Pollution Control Board (CPCB) dated 5.2.2014. The Petitioner has also furnished documentary evidence in support of the same. It is evident that the directions of the CPCB also include the installation of online Effluent Quality Monitoring System. Keeping in view that the expenditure incurred is a statutory requirement mandated by CPCB, we allow the additional capital expenditure claimed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

36. Further, the additional capital expenditure of Rs.6.31 lakh in 2014-15, Rs.2.83 lakh in 2015-16 and Rs.0.58 lakh in 2016-17 claimed towards Ash handling plant (dry ash extraction system) under Regulation 14(3)(iv) of the 2014 Tariff Regulations is towards the completion of the balance works, which are within the original scope of work of the project. In view of this, the additional capital expenditure claimed is allowed under this head, for the purpose of tariff.

37. The Petitioner has also claimed additional capital expenditure towards 400 kV S-Yard, Fire detection Protection system, Steam generator, Township, Turbine generator, cabling, CPU, CT - Civil, Raw water reservoir (as in table under paragraph 25 above). It



is noticed that these works were executed prior to cut-off date, but payments were released after closure of contract, based on final reconciliation and defect rectification etc. In view of this, the total additional capital expenditure of Rs.354.65 lakh for 2014-19 period is allowed for the purpose of tariff.

38. Also, the Petitioner's claim for additional capital expenditure towards land under Regulation 14(3)(v) of the 2014 Tariff Regulations is allowed as the said expenditure has been incurred on account of settlement of issues related to claims of Land oustees. However, in respect of the additional capital expenditure claimed under various other heads viz. Off-site civil works, SG civil works and Turbine Generator civil works, the Petitioner has submitted that the additional capital expenditure pertains to the payments made to the contracting agencies whose works were offloaded to other vendors. However, the details of offloaded works have not been submitted by the vendors. Further, since the cut-off date of the project has expired the Petitioner has prayed the Commission to allow the capitalization of these expenses under power to relax. We have considered the matter. Since the Petitioner has not submitted the details of offloading of works and the cut-off date of the project has expired, we are not inclined to exercise Power to Relax under Regulation 54 of the 2014 Tariff Regulations and disallow these expenditures.

39. Based on the above, the total additional capital expenditure allowed towards 'new claims' is Rs.135.59 lakh (corresponding un-discharged liabilities is Rs.89.08 lakh and IDC is Rs.1.44 lakh) in 2014-15, Rs.152.32 lakh (corresponding un-discharged liabilities is Rs.17.66 lakh) in 2015-16, Rs.96.99 lakh (corresponding un-discharged liabilities is Rs.6.28 lakh and IDC is Rs.1.50) in 2016-17, Rs.61.87 lakh (corresponding



un-discharged liabilities is Rs.48.46 lakh) in 2017-18, and Rs.88.27 lakh (corresponding un-discharged liabilities is 'nil') in 2018-19, on cash basis.

(d) *De-capitalization of spares (part of capital cost)*

40. The Petitioner has claimed de-capitalization of spares, forming part of the admitted capital cost of (-) Rs.44.42 lakh in 2014-15, (-) Rs.36.35 lakh in 2015-16, (-) Rs.115.42 lakh in 2016-17, (-) Rs.262.20 lakh in 2017-18 and (-) Rs.245.47 lakh in 2018-19, under Regulation 14(4) of the 2014 Tariff Regulation. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such assets, are to be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalization claimed under this head is allowed for the purpose of tariff.

Discharges of liabilities

41. The discharges of liabilities claimed by the Petitioner is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
333.80	927.94	35.00	269.77	267.78

42. Out of the total discharge of liabilities claimed by the Petitioner, the discharge of Rs.0.75 lakh in 2016-17, corresponds to assets disallowed for the purpose of tariff. Accordingly, the same is not considered for the purpose of tariff. Accordingly, the discharges of liabilities of Rs.333.80 lakh in 2014-15, Rs.927.94 lakh in 2015-16, Rs.34.24 lakh in 2016-17, Rs.269.77 lakh in 2017-18 and Rs.267.78 lakh in 2018-19 is allowed for the purpose of tariff as per break-up details as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Pertaining to the period prior to 1.4.2014	333.80	870.28	19.41	258.81	227.86



Pertaining to the 2014-19 tariff period	0.00	57.66	14.83	10.96	39.92
Total	333.80	927.94	34.24	269.77	267.78

43. Further, out of reversal of liabilities claimed by the Petitioner during the 2014-19 tariff period reversals amounting to Rs.577.30 lakh in 2014-15, Rs.429.15 lakh in 2015-16, Rs.161.44 lakh in 2016-17, Rs.12.13 lakh in 2017-18 and Rs.55.26 lakh in 2018-19, pertains to liabilities for the period prior to 1.4.2014. It is noticed that the Petitioner, in Form-18, has not furnished the year-wise break-up of un-discharged liabilities, which is required to work out the discharges/reversals during the 2014-19 tariff period, pertaining to liabilities deducted as on 1.4.2009 for the purpose of adjustment of cumulative repayment and cumulative depreciation corresponding to these discharges.

44. Accordingly, the discharges/reversals relating to the period prior to 1.4.2014, as shown above, have been considered to be paid in respect of old liabilities i.e., liabilities as on 1.4.2009, first. Out of total liabilities deducted as on 1.4.2009 for Rs.18022.68 lakh (with corresponding adjustment to cumulative repayment and cumulative depreciation amounting to Rs.523.42 lakh and Rs.542.38 lakh), the balance liabilities as on 1.4.2014 works out to Rs.3893.43 (with corresponding balance adjustment to cumulative repayment and cumulative depreciation amounting to Rs.113.07 lakh and Rs.117.17 lakh). The summary of un-discharged liabilities, corresponding to admitted capital cost, is as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
	(A) Out of liabilities deducted as on 1.4.2009					
a	Opening liability	3893.43	2982.33	1682.90	1502.05	1231.10
b	Addition during the year	0.00	0.00	0.00	0.00	0.00
c	Discharges during the year	333.80	870.28	19.41	258.81	227.86
d	Reversal during the year	577.30	429.15	161.44	12.13	55.26
e	Closing liability (a+b-c-d)	2982.33	1682.90	1502.05	1231.10	947.98
	(B) Other liabilities					
f	Opening liability	362.44	413.99	345.82	337.26	374.45



g	Addition during the year	51.55	1.26	6.27	48.46	0.00
h	Discharges during the year	0.00	57.66	14.83	10.96	39.92
i	Reversal during the year	0.00	11.77	0.00	0.31	0.00
j	Closing liability (f+g-h-i)	413.99	345.82	337.26	374.45	334.54
k	Total closing liabilities (e+j)	3396.32	2028.73	1839.31	1605.56	1282.52

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Already allowed items					
Ash Dyke raising work	743.99	89.74	38.08	28.40	0.00
New claims					
Land	0.00	8.03	9.33	1.75	42.73
400 KV S-Yard	8.90	0.00	0.00	0.00	0.00
Fire Detection and Protection System	24.93	0.00	0.00	0.00	44.51
Steam Generator	80.64	0.00	0.00	0.00	0.00
Township	13.36	72.04	63.02	0.00	1.02
Turbine Generator	1.44	0.00	0.00	0.00	0.00
Cabling	0.00	5.75	0.00	0.00	0.00
CPU	0.00	38.99	0.00	0.00	0.00
CT – Civil	0.00	0.05	0.00	0.00	0.00
Ash Handling plant	6.31	2.83	0.58	0.00	0.00
Effluent Quality Monitoring System (EQMS)	0.00	26.26	0.00	0.00	0.00
Continuous Emission Monitoring System (CEMS)	0.00	0.00	24.06	0.00	0.00
Civil work of Ash Dyke	0.00	0.00	0.00	19.68	0.00
Chimney	0.00	0.00	0.00	40.43	0.00
De-capitalization					
De-capitalization of spares (part of Capital cost)	(-) 44.42	(-) 36.35	(-) 115.42	(-) 262.20	(-) 245.47
Additional capital expenditure allowed (before discharges of liabilities)	835.15	205.71	19.65	(-) 171.94	(-) 157.20
Add: Discharge of Liabilities	333.80	927.94	34.24	269.77	267.78
Net Additional capital expenditure (including discharges of liabilities)	1168.95	1133.65	53.89	97.84	110.58
Add: Exclusions disallowed	(-) 60.20	(-) 53.21	(-) 56.24	(-) 300.19	(-) 75.49
Net additional capital expenditure allowed	1108.75	1080.45	(-) 2.35	(-) 202.35	35.08



Capital cost allowed for the 2014-19 tariff period

46. Based on above, the capital cost allowed for the purpose of tariff is as under:

	<i>(Rs. In lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	430503.32	431612.07	432692.51	432690.17	432487.82
Add: Additional capital expenditure	1108.75	1080.45	(2.35)	(202.35)	35.08
Closing Capital Cost	431612.07	432692.51	432690.17	432487.82	432522.90
Average Capital Cost	431057.69	432152.29	432691.34	432588.99	432505.36

Debt Equity Ratio

47. Regulation 19 of the 2019 Tariff Regulations provides as under:

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

Provided that: i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

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

(2) The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

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

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



(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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

48. Accordingly, the gross normative loan and equity amounting to Rs.301352.32 lakh and Rs.129151.00 lakh, respectively as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved above has been allocated to debt and equity in the ratio of 70:30. Accordingly, the details of debt-equity ratio 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)	(%)	Capital cost as on 31.3.2019 (Rs. in lakh)	(%)
Debt	301352.32	70.00	1413.71	70.00	302766.03	70.00
Equity	129151.00	30.00	605.87	30.00	129756.87	30.00
Total	430503.32	100.00	2019.58	100.00	432522.90	100.00

Return on Equity

49. Regulation 24 of the 2014 Tariff Regulation provides as under:

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

- i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
- ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
- iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
- iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of*



the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

- v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*
- vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometer.”*

50. 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

(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.”

51. The Petitioner has claimed tariff considering rate of return on equity of 19.611% in 2014-15, 19.705% in 2015-18 and 19.758% in 2018-19. The Petitioner has arrived at these rates after grossing up base rate of return on equity of 15.50% with MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.549% in 2018-19. However, after



rectifying the rounding off errors the rate of return on equity to be considered for the purpose of tariff works out to 19.610% for 2014-15, 19.705% for 2015-18 and 19.758% for 2018-19. Accordingly, return on equity has been worked out as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	129151.00	129483.62	129807.76	129807.05	129746.35
Addition of Equity due to additional capital expenditure	332.62	324.13	(-) 0.70	(-) 60.71	10.52
Normative Equity – Closing	129483.62	129807.76	129807.05	129746.35	129756.87
Average Normative Equity	129317.31	129645.69	129807.41	129776.70	129751.61
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-tax) (annualized)	25359.12	25546.68	25578.55	25572.50	25636.32

Interest on loan

52. 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 Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

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

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

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

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

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



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

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

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

53. Interest on loan has been computed as under:

- i) The gross normative loan amounting to Rs.301352.32 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014.
- ii) Cumulative repayment amounting to Rs.117403.61 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs.183948.71 lakh.
- iv) Addition to normative loan on account of additional capital expenditure approved above have been considered.
- v) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 8.6626% in 2014-15, 8.5190% in 2015-16, 8.6404% in 2016-17, 8.2812% in 2017-18 and 8.5373% in 2018-19. However, considering the details of actual loan portfolio and rate of interest furnished by the Petitioner, duly adjusted for interest capitalized during the respective years the WAROI to be considered for the purpose of tariff works out to 8.6482% in 2014-15, 8.5190% in 2015-16, 8.6036% in 2016-17, 8.1976% in 2017-18 and 8.4672% in 2018-19.
- vi) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Further, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff and discharges/reversals corresponding to un-discharged liabilities deducted from allowed capital cost as on 1.4.2009.

54. 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)	301352.32	302128.44	302884.76	302883.11	302741.47
Cumulative repayment of loan up to previous year (B)	117403.61	139436.79	161545.15	183604.16	205469.21
Net Loan Opening (C)=(A-B)	183948.71	162691.65	141339.60	119278.96	97272.26
Addition due to additional capital expenditure (D)	776.12	756.31	(1.64)	(141.65)	24.56
Repayment of loan during the year (E)	22036.88	22093.65	22120.13	22109.99	22102.76
Repayment adjustment on account of de-capitalization (F)	30.17	23.02	66.38	252.81	169.85
Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	26.46	37.74	5.25	7.87	8.22
Net Repayment of loan during the year (H)=(E-F+G)	22033.18	22108.37	22059.00	21865.06	21941.13
Net Loan Closing (I)	162691.65	141339.60	119278.96	97272.26	75355.68
Average Loan (J)=[(C+I)/2]	173320.18	152015.63	130309.28	108275.61	86313.97
Weighted Average Rate of Interest of loan (K)	8.6482%	8.5190%	8.6036%	8.1976%	8.4672%
Interest on Loan (L)=(JxK)	14989.08	12950.27	11211.29	8876.01	7308.38

Depreciation

55. 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.”

56. The cumulative depreciation amounting to Rs.118243.39 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014. The value of freehold land amounting to Rs.5171.63 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, along with additions during the 2014-19 tariff period, has been considered for the purpose of tariff. Accordingly, the balance depreciable value, before providing depreciation for the year 2014-15, works out to Rs.265054.07 lakh. Since, the elapsed life of the generating station (5.52 years) as on 1.4.2014 from effective station COD of the generating station i.e. 25.9.2008 is less than 12 years, depreciation has been computed, considering the



weighted average rate of depreciation (Annexure-I). 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)	431057.69	432152.29	432691.34	432588.99	432505.36
Value of freehold land included above (B)	5171.63	5175.65	5184.32	5189.86	5212.10
Depreciable Value (C) = [(A-B) x 90%]	383297.46	384278.98	384756.32	384659.22	384563.93
Remaining Depreciable value at the beginning of the year (D) = [C – 'K' of previous year]	265054.07	244001.45	222369.06	200212.77	178252.14
Balance useful life at the beginning of the year (E)	19.48	18.48	17.48	16.48	15.48
Weighted average rate of depreciation (F)	5.1123%	5.1125%	5.1122%	5.1111%	5.1104%
Depreciation during the year (G) = (A x F)	22036.88	22093.65	22120.13	22109.99	22102.76
Cumulative depreciation at the end of the year, before adjustment of de-capitalization adjustment (H) = [G + 'K' of previous year]	140280.27	162371.18	184507.39	206556.45	228414.55
Cumulative depreciation adjustment in respect of discharges/reversals pertaining to un-discharged liabilities deducted as on 1.4.2009 (I)	27.42	39.11	5.44	8.15	8.52
Cumulative depreciation adjustment on account of de-capitalization (J)	30.17	23.02	66.38	252.81	169.85
Cumulative depreciation, at the end of the year (K) =(H+I-J)	140277.53	162387.26	184446.45	206311.79	228253.22

Note: Cumulative depreciation as on 31.3.2014 is Rs.118243.39 lakh.

Operation & Maintenance Expenses

57. Regulation 29(1)(a) of the 2014 Tariff Regulations specifies the following norms for O&M expenses for coal based/lignite fired generating station:

“Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations/units referred to in clauses (b) and (d):

Year	(in Rs. Lakh/MW)			
	200/210/250 MW Sets	300/330/350 MW Sets	500 MW Sets	600 MW Sets and above
FY 2014-15	23.90	19.95	16.00	14.40



FY 2015-16	25.40	21.21	17.01	15.31
FY 2016-17	27.00	22.54	18.08	16.27
FY 2017-18	28.70	23.96	19.22	17.30
FY 2018-19	30.51	25.47	20.43	18.38

Provided that the norms shall be multiplied by the following factors for arriving at norms of O&M expenses for additional units in respective unit sizes for the units whose COD occurs on or after 1.4.2014 in the same station:

200/210/250 MW	Additional 5 th & 6th units	0.90
	Additional 7 th & more units	0.85
300/330/350 MW	Additional 4 th & 5th units	0.90
	Additional 6 th & more units	0.85
500 MW and above	Additional 3 rd & 4th units	0.90
	Additional 5 th & above units	0.85

58. The Commission by order dated 21.3.2017 in Petition No. 322/GT/2014 had allowed O&M expenses as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	16000.00	17010.00	18080.00	19220.00	20430.00
Water Charges allowed under Regulation 29(2)	4391.28	4485.91	4485.91	4485.91	4485.91
Total O&M expenses allowed	20391.28	21495.91	22565.91	23705.91	24915.91

59. The O&M expenses claimed by the Petitioner are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	16000.00	17010.00	18080.00	19220.00	20430.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
- Water charges	4391.28	4485.82	4643.67	4976.32	3821.64
- Water charges claimed for previous period	0.00	0.00	570.33	1197.68	0.00
- Capital spares consumed	254.61	379.68	115.42	262.20	245.47
Sub-total O&M Expenses	20645.89	21875.50	23409.42	25656.20	24497.11
Impact of wage revision	0.00	30.20	1016.64	1237.76	1628.79
Impact of GST	0.00	0.00	0.00	148.00	206.00
Ash transportation expenses	0.00	0.00	0.00	0.00	159.52
Total O&M Expenses	20645.89	21905.71	24426.06	27041.96	26491.42

60. The generating station, with a capacity of 1000 MW, comprises of two units of 500 MW each. Unit-I achieved COD on 20.6.2008 and Unit-II on 1.1.2009. Therefore, in



terms of Regulation 29(1)(a) of the 2014 Tariff Regulations, the normative O&M expenses allowed is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
16000.00	17010.00	18080.00	19220.00	20430.00

Water Charges

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

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

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

62. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The Petitioner has claimed water charges based on actual water consumption of the generating station as under:

<i>(Rs. in lakh)</i>						
	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Type of cooling tower	-	Induced Draft Cooling Tower (IDCT)				
Type of cooling water system	-	Closed Cycle				
Water allocation/contracted*	MCM	120	120	120	120	93
Actual water consumption for Sipat Stage-I & Stage-II	MCM	69.27	89.90	84.39	84.76	78.38
Rate of water charges	-	Rs.12.25/m ³				
Total water charges paid (for Sipat Stage-I & Stage-II)	Rs. in lakh	13086.00	13367.76	13838.13	14829.44	11388.49
Water charges paid for Sipat Stage-II and claimed in Petition	Rs. in lakh	4391.28	4485.82	4643.67	4976.32	3821.64

* for Sipat-I, Sipat-II and Balco CPP

63. The water charges allowed, on projected basis, by order dated 21.3.2017 in Petition No. 322/GT/2014 is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4391.28	4485.91	4485.91	4485.91	4485.91



64. The water charges claimed (Rs.22318.73 lakh) by the Petitioner is lower than the water charges (Rs.22334.92 lakh) allowed on projected basis in order dated 21.3.2017 in Petition No. 322/GT/2014. The Petitioner has shown actual consumption of water on combined basis, for both the Stages of the generating station, which is well within the maximum water consumption limits of 3.5 m³/MWh as per Ministry of Environment, Forest and Climate Change (MOEFCC) Notification dated 7.12.2015. Further, the water charges claimed is in accordance with the auditor certified financial statements for the relevant financial years of the 2014-19 tariff period. Accordingly, the water charges claimed by the Petitioner shown as under is allowed for the purpose of tariff:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4391.28	4485.82	4643.67	4976.32	3821.64

Arrear for water charges

65. In addition to above, the Petitioner has claimed arrears of water charges for the period from November, 2009 to January 2017, which was actually paid during the years 2016-17 and 2017-18, based on revised computational methodology for actual drawl of water w.e.f. February 2017 by the Water Resources Department of Chhattisgarh (WRD). The Petitioner has submitted that water agreement for the generating station has been done for the period of 30 years based on allocation of water quantity, on daily basis, for 0.328 MCM and the aggregated billing for water consumption, is carried out on monthly basis.

66. The Petitioner has stated that if the actual drawl is less than contracted quantity, the minimum payment of water charges is to be made based on allocation equivalent to 90% of the monthly contracted quantity of 10 MCM i.e. 9 MCM for Sipat Stage-I & Stage-II and if the actual consumption exceeds the contracted quantity on monthly basis, the water charges are payable @1.5 times the applicable rate of water charges.



The actual consumption consists of actual drawl of water plus 30% evaporation loss, as per the water agreement. It has however submitted that WRD had revised the computational methodology for actual drawl w.e.f. February, 2017 and as per the revised methodology, the actual consumption is derived based on the maximum of actual drawl and 90% of contracted quantity and the quantity as arrived shall further include the 30% of evaporation loss on actual drawl. The Petitioner has stated that based on the revised methodology, the WRD raised the arrear billing of Rs16.98 crore and Rs 35.65 crore for the period from November 2009 to January, 2017 and the same has been paid in 2016-17 and 2017-18 respectively and has been booked under P&L in the books of accounts. Accordingly, the Petitioner has submitted that arrear amounts of Rs.570.33 lakh and Rs.1197.68 lakh paid for the Stage-II of the generating station during 2016-17 and 2017-18 have been claimed in Form-3A in addition to the regular water charges paid to the WRD.

67. The Respondent MSEDCL has submitted that prudence check of water charges claimed by the Petitioner may be undertaken.

68. We have considered the matter. It is observed that the Water Resource Department, Government of Chhattisgarh vide its letter dated 22.3.2016 has directed the Petitioner to pay Rs.35.65 Cr towards arrear of water charges. Considering the fact that the directions of the WRD, Government of CG, based on which the Petitioner was mandated to pay the water charges as stated aforesaid, is a change in law event, we allow the recovery of total arrears of water charges of Rs.570.33 lakh in 2016-17 and Rs. 1197.68 lakh in 2017-18. Further, since the arrear payment includes water charges for the period upto February 2017 the same has been considered as part of O&M



expenses and consequential annual fixed charges being determined in this order under the 2014 Tariff Regulations.

Capital Spares

69. The last proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as under:

“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”.

70. In terms of the above proviso, capital spares consumed are admissible separately, at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares claimed by the Petitioner are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
254.61	379.68	115.42	262.20	245.47

71. We have examined the list of spares furnished by the Petitioner along with the de-capitalization details as submitted in Form-9Bi. The capital spares consumption claimed by the Petitioner comprises of two categories as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares (part of capital cost)	44.42	36.35	115.42	262.20	245.47
Capital spares (not part of capital cost)	210.19	343.34	0.00	0.00	0.00
Total capital spares consumed claimed	254.61	379.68	115.42	262.20	245.47

72. In respect of capital spares which forms part of capital cost of the generating station, the Petitioner has been recovering tariff since their procurement and therefore same cannot be allowed as part of additional O&M expenses. Accordingly, only those capital spares which do not form part of the capital cost of the generating station are



only being considered in the present Petition. It is pertinent to mention that the term 'capital spares' has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs.1.00 lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the Petition, has been considered for the purpose of tariff. Based on this, the details of capital spares consumption allowed for the 2014-19 tariff period is summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	254.61	379.68	115.42	262.20	245.47
Less: Capital spares (part of capital cost)	44.42	36.35	115.42	262.20	245.47
Total capital spares consumed (not part of capital cost)	210.19	343.34	0.00	0.00	0.00
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	0.43	1.87	0.00	0.00	0.00
Net total value of capital spares considered	209.76	341.47	0.00	0.00	0.00

73. Further, we are of the view that spares do have salvage value. Accordingly, in line with the practice of considering 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 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, net capital spares allowed is summarized as under:



(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	209.76	341.47	0.00	0.00	0.00
Less: Salvage value @ 10%	20.98	34.15	0.00	0.00	0.00
Net capital spares allowed	188.79	307.32	0.00	0.00	0.00

Additional O&M expenses

A. Impact of GST

74. The Petitioner has claimed additional O&M expenses of Rs.148.00 lakh in 2017-18 and Rs.206.00 lakh in 2018-19 on account of payment of Goods and Service Tax (GST). The Respondent, MSEDCL has submitted that the Petitioner's claim of GST expenses towards O&M expenses will lead to additional burden on the consumers and the GST expenses towards O&M expenses are applicable only if a service is outsourced. Respondent MSEDCL has submitted that services are outsourced on account of efficiency issues or lack of expertise within the company and will be lower than the cost of doing the work internally. It has further submitted that the O&M norms are the ceiling norms and generating companies are required to manage within these limits. The Respondent, MPPMCL has submitted that through enactment of GST Act, GOI has rationalized the tax regime by subsuming various taxes/cess/duties, which has resulted in reduction of overall applicable tax rate in the country and therefore the claim of the Petitioner is not in order. The Petitioner in its rejoinder has submitted that it is a settled position of law that promulgation of GST is change in law event and falls within the purview of Regulation 3(9) read with Regulation 14(3) of the 2014 Tariff Regulations. The Petitioner has further submitted that the amount claimed is only on account of differential rate of tax for taxable services relating to O&M i.e. under erstwhile service tax 15% and in GST 18%.



75. The submissions have been considered. 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 paragraph 49.6 of the SOR (Statement of Objects and Reasons) issued with the 2014 Tariff Regulations, which is extracted hereunder:

“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...”

76. Further, the escalation rates considered in the O&M expense norms 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 impact of GST.

B. Impact of Wage Revision

77. The Petitioner has submitted that the Commission while specifying the 2014 Tariff Regulations applicable for the 2014-19 tariff period, had taken note in SOR to the said regulations that any increase in the employee expenses, on account of pay revision shall be considered appropriately, on case to case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed additional O&M expenses of Rs.30.20 lakh in 2015-16, Rs.1016.64 lakh in 2016-17, Rs.1237.76 lakh in 2017-18 and Rs.1628.79 lakh in 2018-19, towards impact of wage revision of employees of CISF from 1.1.2016 and the employees of the Petitioner posted in the generating station, with effect from 1.1.2017. In this regard, the Petitioner vide affidavit dated 4.6.2021 has submitted the following:



- (a) Detailed break-up of the actual O&M expenses booked by the Petitioner for the 2014-19 tariff period for the whole generating station (i.e. all Stages of Sipat STPS).
- (b) Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the 2014-19 tariff period.
- (c) Break-up of claimed wage revision impact on employee cost, expenses on corporate centre and on salaries of CISF employee of the generating station for the 2014-19 tariff period.

78. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed total amount of Rs.3913.39 lakh (Rs.30.20 lakh in 2015-16, Rs.1016.64 lakh of in 2016-17, Rs.1237.76 lakh in 2017-18 and Rs.1628.79 lakh in 2018-19) as impact of wage revision of employees of CISF from 1.1.2016 and for 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 employees, consequent upon wage revision, of Rs.38.54 lakh in 2017-18 and Rs.169.34 lakh in 2018-19. As such, as per consistent methodology adopted by the Commission, 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.3389.77 lakh with the following year-wise break up.

	<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	0.00	30.20	1016.64	1135.65	1207.28	3389.77

79. 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 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 the SOR is extracted under:

“29.26. Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the 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.”

80. The methodology indicated in SOR quoted above suggests a comparison of the normative O&M expenses with the actual O&M expenses, on year to year basis.

However, in this respect the following facts needs consideration:

- (a) The norms are framed based on the averaging of the actual O&M expense 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) When 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.

81. 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 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.

82. The Petitioner has furnished the detailed breakup of the actual O&M expenses incurred during the 2014-19 tariff period for combined stages i.e. Stage-I and II of the Sipat STPS. It is noticed that the total O&M expenses incurred for generating station is more than the normative O&M expenses recovered during each year of the 2014-19 tariff period. The impact of wage revision/ pay revision could not be factored by the Commission while framing the O&M expense 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 SOR to the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

(a) Comparison of the normative O&M expenses with the actual O&M expenses incurred 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 fee, 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 expense norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses. Having done so, if the normative O&M expenses for the period 2015-19 are higher than the actual O&M expenses (normalized) for the said period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the said 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 lesser 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.

83. The details as furnished by the Petitioner for actual O&M expenses incurred for Stage-I and II (2980 MW) for the period from 1.4.2014 to 31.3.2019, and the wage revision impact (excluding PRP and ex-gratia) for the generating station (Stage-II of 1000 MW) are as under:

(Rs. in lakh)

Year	Actual O&M expenses for whole Sipat STPS, excluding water charges & capital spares	Wage revision impact claimed for the generating station i.e. Sipat STPS, Stage-II (1000 MW)
2014-15	44510.15	0.00
2015-16	48143.16	30.20
2016-17	53691.97	1016.64
2017-18	58240.45	1135.65
2018-19	62262.61	1207.28
Total		3389.77

84. As a first step, the expenditure against sub-heads of O&M expenses as indicated in paragraph 82 above have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I & Stage-II). Accordingly, the comparison of the normative O&M expenses versus the actual O&M expenses (normalized) along with the wage



revision impact claimed by the Petitioner for the generating station i.e. Sipat STPS, Stage-II (1000 MW) for the period 2015-19 is as follows:

	<i>(Rs. in lakh)</i>				
	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I and II i.e. 2980 MW) – (a)	44212.70	49728.63	52159.01	55508.53	201608.86
Actual O&M expenses (normalized) for the generating station i.e. Sipat STPS, Stage-II (1000 MW) pro-rated based on capacity – (b)	14836.48	16687.46	17503.02	18627.02	67653.98
Normative O&M expenses for Sipat STPS, Stage-II as per Regulation 29(1) of the 2014 Tariff Regulations – (c)	17010.00	18080.00	19220.00	20430.00	74740.00
Under/(Excess) recovery for the generating station (d)=(b)-(c)	(-) 2173.52	(-) 1392.54	(-) 1716.98	(-) 1802.98	(-) 7086.02
Wage revision impact claimed (excluding PRP/ex-gratia)	30.20	1016.64	1135.65	1207.28	3389.77

85. It is observed that for wage revision impact during the period 2015-19, the normative O&M expenses is more than the actual O&M expenses (normalized) and the excess recovery is to the tune of (-) Rs.7086.02 lakh which exceeds the wage revision impact claimed (excluding PRP/ex-gratia) by the Petitioner. As such, in terms of methodology described above, the wage revision impact (excluding PRP/ex-gratia) is not allowed for the generating station.

C. Fly Ash Transportation expenses

86. The Petitioner has claimed an amount of Rs.160.00 lakh in 2018-19 towards Ash transportation expenses, as additional O&M expenses. The Petitioner has submitted that the notification dated 25.1.2016 of Ministry of Environment, Forest & Climate Change (MOEFCC), issued in terms of the provisions of the Environment (Protection) Act 1986, provides for the transportation cost of Fly ash generated at power stations, to



be borne by such generating companies. The Petitioner has also stated that it had filed Petition No. 172/MP/2016 before this Commission, seeking reimbursement of the additional expenses incurred towards Fly Ash transportation, directly from the beneficiaries as the same are statutory expenses. Accordingly, the Petitioner has sought reimbursement of the additional expenditure incurred towards fly ash transportation, as under:

<i>(Rs. in lakh)</i>	
	2018-19
Expenditure towards fly ash transportation (a)	159.52
Revenue earned from sale of fly ash (b)	0.00
Net additional O&M expenses claimed (c) = (a-b)	159.52

87. The Petitioner vide affidavit dated 4.6.2021 has submitted the claim for Ash transportation expenses, arrived at after adjusting revenue earned from sale of fly ash after 25.1.2016, along with auditor certificate. The Petitioner has also submitted that award for fly ash transportation contract has been done through transparent competitive bidding procedure. It has stated that prior to the MoEF&CC notification dated 25.1.2016, there was no mandate on the Petitioner to transport fly ash, as fly ash was being made available at the generating station and to the industries bearing the cost of transport of fly ash themselves.

88. The matter has been examined. As regards reimbursement of Ash transportation expenses, the Commission in its order dated 5.11.2018 in Petition No.172/MP/2016, while directing compliance of certain conditions by the Petitioner, had granted liberty to the Petitioner to approach the Commission at the time of truing-up exercise for the 2014-19 tariff period along with all details/information, duly certified by auditor. The MoEF&CC notification dated 25.1.2016 provides as follows:



“10. The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agriculture activity within a radius of hundred kilometers from a coal or lignite based thermal power plant shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond the radius of hundred kilometers and up to three hundred kilometers shall be shared equally between the user and the coal or lignite based thermal power plant.”

89. It is noticed from records that the Petitioner has only furnished the auditor certificate in support of its claim. Also, in compliance to the directions vide ROP of the hearing dated 30.11.2021 the Petitioner has submitted the fly ash utilization details. However, it is observed that the relevant information (such as the quantum of ash transported, locations, the distance of the end user (in km), the applicable awarded rate in Rs./ton per kilometer, name of the transporters, etc.) required in terms of the MoEF&CC notification dated 25.1.2016 has not been furnished by the Petitioner. It is not clear from the details as to whether (i) the quantum of ash, (ii) ash transportation is beyond 100 km radius or less than 100 km radius, and (iii) the sharing of 50% of ash transportation expenses to be shared between the ash (end) user and the Thermal Power plant as stipulated in MoEF&CC notification, were excluded from the claim or not. In the absence of the said information, we are not inclined to allow the expenditure claimed towards fly ash transportation, in this order. However, the Petitioner is at liberty to approach the Commission with a separate petition to claim the fly ash transportation charges with proper justification and supporting documents.

90. In view of the above, the total O&M expenses claimed and those allowed to the generating station is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations (a)	16000.00	17010.00	18080.00	19220.00	20430.00
Normative O&M expenses allowed under Regulation 29(1)(a) of the 2014	16000.00	17010.00	18080.00	19220.00	20430.00



Tariff Regulations (b)					
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations (c)	4391.28	4485.82	4643.67	4976.32	3821.64
Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)	4391.28	4485.82	4643.67	4976.32	3821.64
Arrears of water charges claimed (e)	0.00	0.00	570.33	1197.68	0.00
Arrears of water charges allowed (f)	0.00	0.00	570.33	1197.68	0.00
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations (g)	254.61	379.68	115.42	262.20	245.47
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (h)	188.79	307.32	0.00	0.00	0.00
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e + g)	20645.89	21875.50	23409.42	25656.20	24497.11
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f + h)	20580.07	21803.14	23294.00	25394.00	24251.64
Impact of Wage revision claimed	0.00	30.20	1016.64	1237.76	1628.79
Impact of Wage revision allowed	0.00	0.00	0.00	0.00	0.00
Impact of GST claimed	0.00	0.00	0.00	148.00	206.00
Impact of GST allowed	0.00	0.00	0.00	0.00	0.00
Ash transportation expenses claimed	0.00	0.00	0.00	0.00	159.52
Ash transportation expenses allowed	0.00	0.00	0.00	0.00	0.00

Operational Norms

Normative Annual Plant Availability Factor

91. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the Commission vide its order dated 21.3.2017 in Petition No. 322/GT/2014 had allowed the Normative Annual Plant Availability Factor (NAPAF) of 83% for the period 2014-17 and 85% for the period 2017-19. The same is considered for the purpose of tariff.

Gross Station Heat Rate (kCal/kWh)

92. In terms of Regulation 36(C)(a) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2375.00 kCal/kWh as allowed vide order dated 21.3.2017 in Petitioner No. 322/GT/2014, is considered for the purpose of tariff.

Specific Oil Consumption



93. In terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the secondary fuel oil consumption of 0.50 ml/kWh as allowed vide order dated 21.3.2017 in Petition No. 322/GT/2014, is considered for the purpose of tariff.

Auxiliary Power Consumption

94. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 5.75% as allowed vide order dated 29.3.2017 in Petition No. 322/GT/2014, is considered for the purpose of tariff.

Interest on Working Capital

95. Sub-section (a) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

“28 (1) The working capital shall cover:

(a) Coal-based/lignite-fired thermal generating stations

(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;

(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;

(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;

(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and

(vi) Operation and maintenance expenses for one month”

Fuel Cost and Energy Charges for computation of Working Capital

96. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined. In terms of Regulation 30(6) of the 2014 Tariff



Regulations, for determination of the energy charges in working capital, the GCV on 'as received' basis is to be considered.

97. Regulation 30(7) of the 2014 Tariff Regulations provides as under:

“(7) The generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure-I to these regulations:

Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month:

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.”

98. The issue of 'as received' GCV for computation of energy charges was challenged by the Petitioner and other generating companies through various writ petitions filed before the Hon'ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC) challenging Regulations 30(6) of the 2014-19 Tariff Regulations with regard to measurement of GCV of coal on 'as received' basis for purpose of energy charges and the Hon'ble Court had directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on 'as received' basis on the request of Petitioners. In terms of the directions of the Hon'ble High Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the 2014-19 tariff period) decided as under:

“58. In view of the above discussion the issues referred by the Hon'ble High Court of Delhi are decided as under:

“(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station in terms of Regulation 30(6) of the 2014 Tariff regulations.

(b)The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-



1964 before the coal is unloaded. While collecting the samples the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”

99. The review petition filed by the Petitioner against the aforesaid order dated 25.1.2016 was rejected by the Commission vide order dated 30.6.2016 in Petition No.11/RP/2016. The Petitioner filed Petition No. 244/MP/2016 before this Commission praying for removal of difficulties and the issues faced by it in implementing the Commission's orders dated 25.1.2016 and 30.6.2016 with regard sampling of coal from loaded wagon top for measurement of GCV and the Commission by its order dated 19.9.2018 had disposed of the preliminary objections of the respondents therein and held that the petition is maintainable. Against this order, some of the respondents have filed appeal before the APTEL in Appeal Nos. 291/2018 (GRIDCO v NTPC & ors) and the same is pending.

100. In Petition No. 322/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on 'as billed' and on 'as received' basis for the preceding 3 months i.e. for January 2014, February 2014 and March 2014 that were required for determination of Interest on Working Capital (IWC). Therefore, the Commission vide its order dated 21.3.2017 in Petition No.322/GT/2014 revised vide order dated 15.12.2017 in 28/RP/2017 in Petition No. 322/GT/2014, had considered GCV of coal on 'as billed' basis and provisionally allowed adjustment for total moisture while allowing the cost of coal towards generation & stock and two months' energy charges in the working capital.

101. The Petitioner, in this petition, has claimed the fuel related components of working capital based on GCV of coal as 3730.70 Kcal/kg (as indicated at Form-13F)



consequent to the order of the Commission dated 21.3.2017 in Petition No. 322/GT/2014. This “as received” GCV of 3730.70 kcal/kg represents the average of monthly as received GCVs for period from October 2016 to March 2019 (30 months). Further, the Petitioner has submitted that CEA vide letter dated 17.10.2017 has opined that 85-100 kcal/kg for a pit-head station and a margin of 105-120 kcal/kg for non-pit head station may be considered as a loss of GCV of coal between ‘as received’ and ‘as fired’. Accordingly, the Petitioner has considered 100 kcal/kg margin on the average GCV of the period from October 2016 to March 2019 for computing working capital. Accordingly, the cost of fuel component in the working capital of the generating station claimed by the Petitioner is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days)	3888.43	3888.43	3888.43	3982.12	3982.12
Cost of Coal towards Generation (30 days)	7776.85	7776.85	7776.85	7964.24	7964.24
Cost of Secondary fuel oil 2 months	312.73	313.59	312.73	320.27	320.27

102. The Petitioner has also submitted that it has filed separate petition (Petition No. 244/MP/2016) seeking appropriate reliefs due to extreme practical difficulty faced by the Petitioner in implementing Regulation 30(6) of the 2014 Tariff Regulations and directions issued by the Commission in its order dated 25.1.2016 and for consequential directions. It has also sought liberty to make additional submissions based on the final decision in Petition No. 244/MP/2016.

103. In response to the clarification sought from the Petitioner on the details of GCV on ‘as received’ basis for the months of January, 2014 to March, 2014, which was uploaded in the website of the Petitioner and shared with the beneficiaries, the Petitioner vide affidavit dated 4.6.2021, has submitted that though the computation of



energy charges moved from ‘as fired’ basis to ‘as received’ basis, with effect from 1.4.2014, in terms of Regulation 30(6) of the 2014 Tariff Regulations, however, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV shall be as per “actuals” for the three months preceding the first month for which tariff is to be determined. It has further submitted that for the 2014-19 tariff period, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014), by virtue of it falling under the 2009 Tariff Regulations, shall be computed on the basis of ‘as fired’ GCV. Referring to the judgment of the Hon’ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the tariff regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on working capital ought to be computed in terms of Regulation 28 (2) of the 2014 Tariff Regulations, 2014 on actual GCV i.e. ‘as fired’ GCV. The Petitioner, without prejudice to the above submissions, has furnished the details of GCV on ‘as received’ basis for the months of January 2014 to March 2014, in compliance with the directions of the Commission, as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture (TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Weighted Average GCV of coal received (TM basis) (kcal/kg) (D)=[A*(1-B%)/(1-C%)]
1	January 2014	4411.28	11.30	5.78	4152.82
2	February 2014	4202	10.42	5.54	3984.92
3	March 2014	4229.91	10.67	5.69	4006.57
	Average				4048.10

104. The submissions have been considered. As discussed above, the Petitioner in Form-13F, has considered the average GCV of coal on ‘as received basis’ i.e. from



wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the 2014-19 tariff period. In addition to the average GCV, it has also considered a margin of 100 kCal/kg for computation of the working capital of the generating station.

105. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for 2014-19 period is to be based on such values for months of January 2014, February 2014 and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the 2014-19 tariff period in Petition No. 322/GT/2014. In the instant truing up petition, the Petitioner has proposed that instead of GCV for January 2014, February 2014 and March 2014, the Commission should consider the average values for months of October 2016 to March 2019 since the measurement of 'as received' GCV has been done in accordance with directions of the Commission vide order dated 25.1.2016 in Petition No.283/GT/2014. In our view, the proposal of the Petitioner to consider the retrospective application of 30 months' (October 2016 to March 2019) average of 'as received' GCV data in place of 'as received' GCV of the preceding three months (January 2014 to March 2014) is not acceptable, keeping in view that the average GCV for 30 months may not be commensurate to the landed cost of coal for the preceding three months to be considered for calculating IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations and that due to efflux of time (gap of 30 month), the quality of coal extracted from the linked mines would have undergone considerable changes. Also, the



consideration of loss of GCV of 100 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

106. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014, February, 2014 and March 2014 as in table under paragraph 103 above, it has submitted that GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the 2009-14 tariff period for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is also not acceptable in view of provisions of Regulation 21(6) of the 2009 Tariff Regulations that was amended on 31.12.2012, by addition of the following provisos:

"The following provisos shall be added under Clause (6) of Regulation 21 of the Principal Regulations as under namely:

Provided that generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal imported coal e-auction coal lignite natural gas RLNG liquid fuel etc. as per the form 15 of the Part-I of Appendix I to these regulations:

*Provided further that the details of blending ratio of the imported coal with domestic coal proportion of e-auction coal and the weighted average GCV of the fuels **as received** shall also be provided separately along with the bills of the respective month:*

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal imported coal e-auction coal lignite natural gas RLNG liquid fuel etc. details of blending ratio of the imported coal with domestic coal proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months."

107. Accordingly, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on 'as received' basis was also required to be provided by the Petitioner along with bills of the respective month. Also,



bills detailing the parameters of GCV and price of fuel were to be displayed by the Petitioner on its website, on monthly basis.

108. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the 2014-19 tariff period was to ensure that GCV losses which might occur within the generating station after receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is negligible difference between 'as received' GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of 2014 Tariff Regulations. In case the submission of the Petitioner that 'as fired' is to be considered 'at actuals' for the preceding three months for purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the 2014-19 tariff period. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on 'as received' basis,



we consider the fuel component and energy charges for two months based on 'as received' GCV of the preceding three months (January 2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

109. The Petitioner has calculated GCV 4048.10 kCal/kg which represents average of GCVs of preceding three months. The weighted average GCV for three months based on the net coal quantities as per Form-15 of the petition and the monthly GCVs as submitted by the Petitioner as discussed above works out to 4053.71 kCal/kg.

110. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition except for 'as received' GCV of coal, which is considered as 4053.71 kCal/kg as discussed above. All other operational norms such as Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Cost have been considered as per the 2014 Tariff Regulations for calculation of fuel components in working capital.

111. Based on the above discussion, the cost for fuel component in working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days of generation)	3578.59	3578.59	3578.59	3664.82	3664.82
Cost of Coal towards Generation (30 days of generation)	7157.17	7157.17	7157.17	7329.64	7329.64
Cost of Secondary fuel oil (2 months of generation)	312.73	313.59	312.73	320.27	320.27

Month to Month Energy Charges

112. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of Energy Charge for thermal generating stations:



“(6) : Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:

(a) For coal based and lignite fired stations

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.

SFC= Normative specific fuel oil consumption, in ml/ kWh

LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month”.

Energy Charge Rate for computation of working capital

113. The Petitioner has claimed Energy Charge Rate (ECR) of 140.8 Paise/kWh for the generating station. The allowable ECR, based on the operational norms as specified in Regulation 36(A) of the 2014 Tariff Regulations and on weighted average of ‘as received’ GCV of 4053.71 kCal/kg is worked out as under:

	Unit	2014-19
Capacity	MW	1000
Gross Station Heat Rate	kCal/kWh	2375
Aux. Energy Consumption	%	5.75
Weighted average GCV of oil	kCal/lit	10130.00
Weighted average GCV of Coal	Kcal/kg	4053.71
Weighted average price of oil	Rs./KL	51614.61
Weighted average price of Coal	Rs./MT	2048.55
Rate of Energy Charge ex-bus	Rs./kWh	1.298

114. The Energy Charges for two months for computation of working capital based on ECR of Rs.1.298/kWh, has been worked out as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
14824.74	14865.35	14824.74	15181.96	15181.96



115. Accordingly, the fuel component and energy charges for two months in working capital is allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for 45 days of generation (15 days for coal stock and 30 days for generation)	10735.76	10735.76	10735.76	10994.45	10994.45
Cost of Secondary fuel oil for 2 months of generation	312.73	313.59	312.73	320.27	320.27
Energy Charges for 2 months	14824.74	14865.35	14824.74	15181.96	15181.96

Working Capital for Maintenance Spares

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4129.18	4381.10	4885.28	5408.44	5298.42

117. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses as specified in the Regulation 29 of the 2014 Tariff Regulations. Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and capital spares) allowed for the 2014-19 tariff period is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4116.01	4360.63	4658.80	5078.80	4850.33

Working Capital for Receivables

118. Receivables equivalent to two months of capacity charges and energy charges has been worked out duly taking into account mode of operation of the generating station on secondary fuel, is allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months	14824.74	14865.35	14824.74	15181.96	15181.96



Fixed Charges - for two months	14875.57	14787.07	14763.49	14748.66	14288.79
Total	29700.31	29652.43	29588.22	29930.62	29470.75

Working Capital for O&M Expenses

119. The O&M expenses for one (1) month as claimed by the Petitioner in Form-13B is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1720.49	1825.46	2035.53	2253.52	2207.68

120. The normative O&M expenses allowed as per Regulation 29(1) of the 2014 Tariff Regulations, Water charges and Capital spares allowed as per Regulation 29(2) of the 2014 Tariff Regulations have been considered for calculating the O&M expenses for one (1) month as part of working capital. Accordingly, one month's O&M expenses allowed is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1715.01	1816.93	1941.17	2116.17	2020.97

121. In terms of Regulation 28(3) of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10% + 350 bps).

122. Accordingly, Interest on working capital has been computed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for Cost of Coal towards Stock (15 days of generation)	3578.59	3578.59	3578.59	3664.82	3664.82
Working Capital for Cost of Coal towards Generation (30 days of generation)	7157.17	7157.17	7157.17	7329.64	7329.64
Working Capital for Cost of Secondary fuel oil (2 months of generation)	312.73	313.59	312.73	320.27	320.27
Working Capital for Maintenance Spares @ 20% of O&M expenses	4116.01	4360.63	4658.80	5078.80	4850.33
Working Capital for Receivables – 2 months of capacity charges and energy charges	29700.31	29652.43	29588.22	29930.62	29470.75
Working Capital for O&M expenses	1715.01	1816.93	1941.17	2116.17	2020.97



- 1 month of O&M expenses					
Total Working Capital	46579.82	46879.33	47236.68	48440.31	47656.77
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
Interest on Working Capital	6288.28	6328.71	6376.95	6539.44	6433.66

123. The calculation of interest on working capital and energy charge calculated as above are subject to the final decision of the Commission in Petition No. 244/MP/2016.

Annual Fixed Charges

124. Accordingly, the annual fixed charges approved for the 2014-19 tariff period for the generating station is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	22036.88	22093.65	22120.13	22109.99	22102.76
Interest on Loan	14989.08	12950.27	11211.29	8876.01	7308.38
Return on Equity	25359.12	25546.68	25578.55	25572.50	25636.32
Interest on Working Capital	6288.28	6328.71	6376.95	6539.44	6433.66
O&M Expenses	20580.07	21803.14	23294.00	25394.00	24251.64
Total	89253.43	88722.45	88580.92	88491.95	85732.76

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

125. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 21.3.2017 in Petition No. 322/GT/2014 and Order dated 15.12.2017 in Review Petition No. 28/RP/2017 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8(13) of the 2014 Tariff Regulations.

Summary

126. The total annual fixed charges allowed in this order for the 2014-19 tariff period is summarized as under;

(Rs. in lakh)

	2014-15	2015-16	2016-17	2018-19	2019-20
Annual fixed charges	89253.43	88722.45	88580.92	88491.95	85732.76

127. Annexure-I attached herewith form part of this order



128. Petition No. 452/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S Jha)
Member

Sd/-
(P.K. Pujari)
Chairperson

CERC website S. No. 289/2022



Annexure-I

Calculation of Weighted Average Rate of Depreciation for 2014-19 Tariff Period

(Rs. in lakh)

Name of assets	Depreciation Rate	2014-15		2015-16		2016-17		2017-18		2018-19	
		Gross Block as on 01.04.2014	Depreciation Amount	Gross Block as on 01.04.2015	Depreciation Amount	Gross Block as on 01.04.2016	Depreciation Amount	Gross Block as on 01.04.2017	Depreciation Amount	Gross Block as on 01.04.2018	Depreciation Amount
Land- Free Hold	0.00%	5321.10	0.00	5321.10	0.00	5329.13	0.00	5338.46	0.00	5340.21	0.00
Land- Lease Hold	3.34%	1894.19	63.27	1894.19	63.27	1894.19	63.27	1894.19	63.27	1894.19	31.63
Land- Right Of Use	3.34%	47.06	1.57	47.06	1.57	47.06	1.57	47.06	1.57	47.06	0.79
Plant & Machinery	5.28%	329959.74	17517.21	333570.91	17749.36	338753.27	17917.48	339939.00	17970.47	340760.60	8996.08
Cooling Toters & CW System.	5.28%	9280.51	490.01	9280.51	490.01	9280.51	490.01	9280.51	490.01	9280.51	245.01
Air conditioning.	5.28%	932.44	49.23	932.44	49.23	932.44	49.23	932.44	49.23	932.44	24.62
Chimney	5.28%	3213.29	169.66	3213.29	169.66	3213.29	166.44	3091.24	163.22	3091.24	81.61
Main Plant Building	3.34%	29379.14	982.65	29462.06	984.37	29482.08	984.70	29482.08	984.84	29490.50	492.49
Service Building	3.34%	5787.21	193.29	5787.21	193.29	5787.21	193.29	5787.21	193.29	5787.21	96.65
S-Yard	5.28%	7666.73	404.80	7666.73	404.80	7666.73	404.80	7666.73	404.80	7666.73	202.40
Raw Water Reservoir	5.28%	2873.84	151.74	2873.84	151.74	2873.84	151.74	2873.84	153.02	2922.30	77.15
MGR	5.28%	25563.32	1349.74	25563.32	1349.74	25563.32	1349.74	25563.32	1349.74	25563.32	674.87
Residential Bldg	3.34%	8617.69	288.08	8632.71	289.32	8692.12	290.32	8692.12	290.32	8692.12	145.16
Road/Bridge	3.34%	4429.61	147.95	4429.61	147.95	4429.61	147.95	4429.61	147.95	4429.61	73.97
Water Supply	5.28%	1700.73	89.80	1700.73	89.80	1700.73	89.80	1700.73	89.80	1700.73	44.90
Locomotive	9.50%	4456.38	423.36	4456.38	423.36	4456.38	423.36	4456.38	423.36	4456.38	211.68
Wagons	5.28%	2447.33	129.22	2447.33	129.22	2447.33	129.22	2447.33	129.22	2447.33	64.61
Spares	5.28%	12093.91	638.56	12093.91	638.56	12093.91	638.56	12093.91	638.56	12093.91	319.28
Furniture & Fixtures, OFFICE EQUIP.	6.33%	2268.61	143.07	2251.66	142.94	2264.61	143.21	2260.09	142.52	2242.98	70.99
Communication Equip.	6.33%	200.18	12.62	198.71	12.58	198.71	12.58	198.71	12.43	194.06	6.14
EDP, WP&SATCOM.	15.00%	1080.32	158.84	1037.54	151.72	985.37	143.66	930.13	133.89	855.12	64.13
VEHICLES	9.50%	29.61	2.81	29.61	2.81	29.61	2.81	29.61	2.81	29.61	1.41
Construction equip.	5.28%	1135.05	59.93	1135.05	59.95	1135.72	59.97	1135.72	59.97	1135.72	29.98
Temp. Constructions.	100.00%	170.36	170.36	170.36	170.36	170.36	170.36	170.36	170.36	170.36	85.18
Total		460548.35	23637.78	464196.25	23865.61	469427.53	24024.06	470440.78	24064.65	471224.23	12040.72
Weighted Average Rate of Depreciation		5.1123%		5.1125%		5.1122%		5.1111%		5.1104%	

