

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 241/GT/2020

Coram:

**Shri P.K. Pujari, Chairperson
Shri Arun Goyal, Member
Shri P.K. Singh, Member**

Date of Order: 7th May, 2022

IN THE MATTER OF

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

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 – 482008
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, Bandra (East),
Mumbai – 400051
3. Gujarat Urja Vikas Nigam Limited,
Vidyut Bhawan, Race Course,
Vadodara – 390007
4. Chhattisgarh State Power Distribution Company Limited,
Sundar Nagar, Danganiya,
Raipur – 492013
5. Electricity Department,
Government of Goa, Vidyut Bhawan, Panaji, Goa



6. DNH Power Distribution Corporation Limited,
UT of DNH, Silvassa – 396230

7. Electricity Department,
Administration of Daman & Diu,
Daman – 396210

.... Respondents

Parties Present:

Shri Venkatesh, Advocate, NTPC
Shri Siddharth Joshi, Advocate, NTPC
Shri Abhiprav Singh, Advocate, NTPC
Shri Rishub Kapoor, Advocate, NTPC
Shri Aashwyn Singh, Advocate, NTPC
Shri A.S. Pandey, NTPC
Shri Parimal Piyush, NTPC
Shri Anurag Naik, MPPMCL

ORDER

This petition has been filed by the Petitioner, NTPC Limited for truing-up of tariff of Vindhyachal Super Thermal Power Station, Stage-II (1000 MW) (hereinafter referred to as 'the generating station') for the 2014-19 tariff period, in accordance with Regulation 8 (1) 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:

Unit	Actual COD
Unit-I	1.7.2000
Unit-II	1.10.2000



3. The Commission vide its order dated 6.2.2017 in Petition No. 327/GT/2014 had approved the annual fixed charges and the capital cost for the 2014-19 tariff period as under:

Annual Fixed Charges allowed

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5587.06	5626.09	5678.08	5742.72	5827.10
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	14888.48	14987.21	15019.22	15054.78	15095.65
Interest on Working Capital	4495.21	4565.82	4629.58	4772.57	4850.65
O&M Expenses	18116.36	19126.36	20196.36	21336.36	22546.36
Compensation Allowance	200.00	200.00	500.00	500.00	500.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	43287.11	44505.48	46023.24	47406.42	48819.77

Capital Cost allowed

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	252976.29	253176.29	253876.29	254259.29	255079.26
Add: Projected additional capital expenditure	200.00	700.00	383.00	820.00	563.00
Closing capital cost	253176.29	253876.29	254259.29	255079.29	255642.29
Average capital cost	253076.29	253526.29	254067.79	254669.29	255360.79

4. Clause (1) of Regulation 8 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 the above regulations, the Petitioner vide affidavit dated 30.10.2019 has sought truing up of tariff for the 2014-19 tariff period and has claimed the following annual fixed charges and capital cost:



Annual Fixed Charges claimed*(Rs in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5665.27	5868.83	6065.51	6207.68	6319.83
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	14953.92	15164.89	15234.54	15277.03	15336.68
Interest on Working Capital	5445.17	5507.61	5624.51	6255.14	5946.99
O&M Expenses	18361.21	19096.91	19936.19	21458.44	22855.42
Compensation Allowance	200.00	200.00	500.00	500.00	500.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Sub-total	44625.57	45838.24	47360.76	49698.29	50958.92
Impact of Pay Revision	0.00	16.86	1058.62	1223.38	1501.98
Impact of GST	0.00	0.00	0.00	139.21	209.50
Arrears of water Charges paid	0.00	0.00	0.00	6767.80	0.00
Total	44625.57	45855.10	48419.38	57828.69	52670.40

Capital Cost claimed*(Rs in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	252976.29	255375.30	257662.70	257731.68	259100.12
Add: Addition during the year/ period	1202.76	2238.84	1194.80	2142.63	0.00
Less: De-capitalization during the year/ period	15.07	6.42	1234.45	810.87	748.53
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	1211.32	54.99	108.62	36.69	32.46
Closing capital cost	255375.30	257662.70	257731.68	259100.12	258384.06
Average capital cost	254175.79	256519.00	257697.19	258415.90	258742.09

6. The Petition was heard through video conferencing on 24.8.2021 and the Commission reserved its order in the matter. The Respondents, Maharashtra State Electricity Distribution Company Limited (MSEDCL) and Madhya Pradesh Power Management Company Limited (MPPMCL) have filed their reply vide affidavits dated 6.1.2021 and 27.8.2021 respectively and the Petitioner vide affidavit dated 18.5.2021 and 13.9.2021 has filed its rejoinder to the replies of MSEDCL and MPPMCL. Based on the submissions of the parties and the documents available on record and on prudence



check, we proceed to revise the tariff of the generating station for the 2014-19 tariff period after truing up 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;

xxx”

8. The Commission vide its order dated 6.2.2017 in Petition No. 327/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.252976.29 lakh (on cash basis) after removal of un-discharged liabilities of Rs.478.11 lakh (Rs.277.56 lakh pertaining to liability for the period prior to 1.4.2004 and Rs.200.55 lakh pertaining to liability added during 2009-14 tariff period) as on 1.4.2014, the same has been considered as on 1.4.2014.

Additional Capital Expenditure

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 order dated 6.2.2017 in Petition No. 327/GT/2014 had allowed the projected additional capital expenditure of Rs.200.00 lakh in 2014-15, Rs.700.00 lakh in 2015-16, Rs.383.00 lakh in 2016-17, Rs.820.00 lakh in 2017-18 and Rs.563.00 lakh in 2018-19 towards Ash Dyke raising in terms of Regulation 14(3)(iv) of the 2014 Tariff Regulations, as under:

	(Rs in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
V-2 Ash Dyke raising	200.00	0.00	0.00	0.00	0.00
V-2 Dyke 3rd raising	0.00	700.00	383.00	0.00	0.00
V-2 Ash Dyke 4th raising	0.00	0.00	0.00	820.00	563.00
Net projected additional capital expenditure allowed	200.00	700.00	383.00	820.00	563.00

11. The additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period, based on auditor certified statement, is as under:



(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Closing Gross Block as per audited books	1356385.85	1623909.36	1231070.54*	1307900.25*	1336013.54*
Less: Opening Gross Block as per audited books	1294131.52	1356385.85	1134324.26*	1231070.54*	1307900.25*
Additional capital expenditure as per audited books	62254.33	267523.51	96746.28*	76829.71*	28113.29*
Less: Additional capital expenditure pertaining to other Stages	60612.96	265079.34	86778.82	72776.84	25387.76
Additional capital expenditure for the generating station	1641.37	2444.17	9967.46	4052.87	2725.53
Less: IND AS Adjustment	0.00	0.00	2536.25	647.13	(-) 1336.64
Additional capital expenditure as per IGAAP for the generating station	1641.37	2444.17	7431.21	3405.74	4062.17
Less: Exclusions	369.05	90.17	7443.14	2074.11	4805.81
Additional capital expenditure claimed for the generating station (on accrual basis)	1272.33	2354.00	(-) 11.93	1331.64	(-) 743.64
Less: Un-discharged liabilities included above	84.64	121.58	27.71	(-) 0.12	4.89
Net Additional capital expenditure claimed for the generating station (on cash basis)	1187.69	2232.42	(-) 39.64	1331.76	(-) 748.53
Add: Discharges of liabilities	1211.32	54.99	108.62	36.69	32.46
Net Additional capital expenditure claimed including discharges for the generating station (on cash basis)	2399.01	2287.41	68.98	1368.44	(-) 716.07

* As per IND AS

Exclusions

12. The summary of exclusions from books of accounts as claimed by the Petitioner for the 2014-19 tariff period is as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Supply installation and commissioning of Energy Management System	7.14	0.00	0.00	0.00	0.00
Capital Spares	958.48	609.20	903.15	1154.18	1021.15
Inter unit transfer of assets	(-) 0.59	0.00	0.00	0.00	0.00
De-capitalization of Spares (Not part of	(-) 478.18	(-) 295.56	0.00	(-) 6.53	(-) 54.15



capital cost)					
Liability Reversal	(-) 117.81	(-) 224.75	(-) 29.70	0.00	(-) 7.01
Supply/Inst/Mandatory spare DVR in Unit 7 & 8	0.00	1.12	0.00	0.00	0.00
Up-gradation PLC System CHP II	0.00	0.15	0.00	0.00	0.00
Design for Service Building	0.00	0.00	31.45	0.00	0.00
Modification of ESP	0.00	0.00	6437.88	945.72	3338.07
Modernization of Lift	0.00	0.00	106.82	0.00	0.00
Capitalization of MBOA	0.00	0.00	8.10	0.00	0.00
De-capitalization of MBOA (Part of capital cost)	0.00	0.00	(-) 14.56	0.00	0.00
Capitalization of Other Buildings	0.00	0.00	0.00	6.44	0.00
De-capitalization of Vehicle (Part of capital cost)	0.00	0.00	0.00	(-) 8.36	0.00
De-capitalization of other assets (Part of capital cost)	0.00	0.00	0.00	(-) 17.34	0.00
Shelter & Toilet Dry Ash Silo Area Stg-2 & 3	0.00	0.00	0.00	0.00	2.62
Eco AC System Stage-2	0.00	0.00	0.00	0.00	543.21
Loan ERV	0.00	0.00	0.00	0.00	(-) 38.08
Total Exclusions claimed	369.05	90.17	7443.14	2074.11	4805.81

13. We now examine the exclusions claimed by the Petitioner for the 2014-19 tariff period as under:

Supply, installation and commissioning of Energy Management System

14. The Petitioner has claimed exclusion of Rs.7.14 lakh in 2014-15 towards supply, installation and commissioning of Energy Management System. In justification of the same, the Petitioner has submitted that since the Commission does not allow the capitalization of minor assets, the same has been claimed as exclusions. The Petitioner's claim under this head is allowed.

Capitalization of capital spares

15. The Petitioner has claimed exclusion of capital spares of Rs.958.48 lakh in 2014-15, Rs.609.20 lakh in 2015-16, Rs.903.15 lakh in 2016-17, Rs.1154.18 lakh in 2017-18 and Rs.1021.15 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, the capitalization of spares over and above initial spares procured after the cut-off date of the generating station is not allowed as part of capital cost as per the 2014 Tariff Regulations, the Petitioner's claim under this head is allowed.

Inter-unit transfer of assets

16. The Petitioner has claimed exclusion of (-) Rs.0.59 lakh in 2014-15, on account of temporary inter-unit transfer of assets from the generating station. In justification of the same, the Petitioner has submitted that inter-unit transfer of assets of temporary nature 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 temporary nature for the purpose of tariff. Accordingly, Petitioner's claim under this head is allowed.

De-capitalization of spares (Not forming part of capital cost)

17. The Petitioner has claimed exclusion of de-capitalization of capital spares of (-) Rs.478.18 lakh in 2014-15, (-) Rs.295.56 lakh in 2015-16, (-) Rs.6.53 lakh in 2017-18 and (-) Rs.54.15 lakh in 2018-19. In justification of the same the Petitioner has submitted that these capital spares are not part of 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-capitalizations of assets not forming part of the admitted capital cost. Accordingly, the Petitioner's claim under this head is allowed.

Reversal of liabilities

18. The Petitioner has claimed exclusion of reversal of liabilities of (-) Rs.117.81 lakh in 2014-15, (-) Rs.224.75 lakh in 2015-16, (-) Rs.29.70 lakh in 2016-17 and (-) Rs.7.01 lakh in 2018-19. In justification for the same, the Petitioner has submitted that tariff is



allowed on cash basis and liabilities, do not form part of tariff and hence the reversal of the same 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.

Supply/Installation of Mandatory spare DVR in Unit-7&Unit-8

19. The Petitioner has claimed exclusion of Rs.1.12 lakh in 2015-16 towards supply/installation of mandatory spare DVR in Unit 7 & Unit 8. In justification for the same, the Petitioner has submitted that the projected expenditure of this work was earlier disallowed by the Commission in its order dated 15.5.2014 in Petition No. 148/GT/2013 in respect of Vindhyachal STPS, Stage-III for the 2009-14 tariff period and accordingly, the same has been claimed as exclusions for the generating station. In view of the submissions, the Petitioner's claim under this head is allowed.

Addition towards minor assets not claimed

20. The Petitioner has claimed exclusion of Rs.698.80 lakh (Rs.0.15 lakh in 2015-16 towards up-gradation PLC System CHP-II; Rs.31.45 lakh, Rs.106.82 lakh and Rs.8.10 lakh in 2016-17 towards design for service building, modernization of lift and capitalization of MBOA's, respectively; Rs.6.44 lakh in 2017-18 towards capitalization of other buildings; and Rs.2.62 lakh and Rs.543.21 lakh in 2018-19 towards Shelter & Toilet in Dry Ash Silo Area for Stage-2&Stage-3 and Eco AC system for Stage-2, respectively) during the 2014-19 tariff period, with the justification that no fresh additional capital expenditure of minor assets are allowed after the cut-off date and



hence these items are not claimed for the purpose of tariff. In view of the submissions, the Petitioner's claim under this head is allowed.

Modification of ESP

21. The Petitioner has claimed exclusion of expenditure towards modification of ESP of Rs.10721.67 lakh (Rs.6437.88 lakh in 2016-17, Rs.945.72 lakh in 2017-18 and Rs.3338.07 lakh in 2018-19) during the 2014-19 tariff period. In justification, the Petitioner has submitted that the Commission vide its order dated 10.3.2017 in Petition No. 339/GT/2014 relating to Vindhyachal STPS, Stage-IV had allowed the ESP retrofitting of Stage-II under change in law and therefore, this expenditure has been claimed as additional capital expenditure in the tariff petition relating to Vindhyachal STPS, Stage-IV. In view of the submissions, the Petitioner's claim under this head is allowed.

De-capitalizations of MBOA's and other assets (forming part of capital cost)

22. The Petitioner has claimed exclusion of (-) Rs.14.56 lakh in 2016-17 and (-) Rs.25.71 in 2017-18 [(-) Rs.8.26 lakh on account of de-capitalization of vehicle and (-) Rs.17.34 lakh on account of de-capitalization of other assets], towards de-capitalization of MBOA's (including vehicles and other assets) forming part of the admitted capital cost of the generating station. In justification for the same, the Petitioner has submitted that as capitalization of expenditure on these items after the cut-off date is not allowed, their de-capitalization has been claimed as exclusions. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalizations of assets, the original cost of such asset is required to be removed from the admitted capital cost of the generating station. In view of this, the exclusion claimed under this head is not allowed.



Loan FERV

23. The Petitioner has claimed exclusion of loan FERV of (-) Rs.38.08 lakh in 2018-19. In justification for the same, the Petitioner has submitted that since Petitioner is required to bill loan FERV directly on the beneficiaries as per the 2014 Tariff Regulations, the same has been kept under exclusion. The Petitioner's claim under this head is allowed.

24. Based on the 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
Supply installation and commissioning of Energy Management System	7.14	0.00	0.00	0.00	0.00
Capital Spares	958.48	609.20	903.15	1154.18	1021.15
Inter unit transfer of assets	(-) 0.59	0.00	0.00	0.00	0.00
De-capitalization of Spares (Not part of capital cost)	(-) 478.18	(-) 295.56	0.00	(-) 6.53	(-) 54.15
Liability Reversal	(-) 117.81	(-) 224.75	(-) 29.70	0.00	(-) 7.01
Supply/Installation of Mandatory spare DVR in Unit 7 & Unit 8	0.00	1.12	0.00	0.00	0.00
Up-gradation PLC System CHP II	0.00	0.15	0.00	0.00	0.00
Design for Service Building	0.00	0.00	31.45	0.00	0.00
Modification of ESP	0.00	0.00	6437.88	945.72	3338.07
Modernization of Lift	0.00	0.00	106.82	0.00	0.00
Capitalization of MBOA	0.00	0.00	8.10	0.00	0.00
De-capitalization of MBOA (Part of capital cost)	0.00	0.00	0.00	0.00	0.00
Capitalization of Other Buildings	0.00	0.00	0.00	6.44	0.00
De-capitalization of Vehicle (Part of capital cost)	0.00	0.00	0.00	0.00	0.00
De-capitalization of other assets (Part of capital cost)	0.00	0.00	0.00	0.00	0.00
Shelter & Toilet Dry Ash Silo Area Stage-2 & Stage-3	0.00	0.00	0.00	0.00	2.62
Eco AC System Stage-2	0.00	0.00	0.00	0.00	543.21
Loan ERV	0.00	0.00	0.00	0.00	(-) 38.08
Total Exclusions Allowed	369.05	90.17	7457.69	2099.82	4805.81
Total Exclusions Disallowed	0.00	0.00	(-) 14.56	(-) 25.71	0.00

25. The additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period is as under:



(Rs in lakh)

	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19
Main Plant Package, Stage-II	14(3)(v)	55.03	0.00	0.00	0.00	0.00
Works ERV		0.00	0.00	0.00	0.00	0.00
Raising of Ash Dyke V2	14(3)(iv)	936.29	1159.07	1194.80	0.00	0.00
Inert Gas Fire Extinguisher	14(3)(ii)	211.44	0.00	0.00	0.00	0.00
Flow Meter System		0.00	56.83	0.00	0.00	0.00
Up-gradation & Retrofitting of Pro-controller	14(3) & 54	0.00	1022.94	0.00	0.00	0.00
Water Charges	14(3)(ii)	0.00	0.00	0.00	2142.63	0.00
De-capitalizations pertaining to modification of ESP (Part of capital cost)	14(4)	0.00	0.00	(-) 1050.00	(-) 150.00	0.00
De-capitalizations of Spares (Part of capital cost)		(-) 15.07	(-) 6.42	(-) 184.45	(-) 660.87	(-) 748.53
Additional capital expenditure claimed (before discharges of liabilities)		1187.69	2232.42	(-) 39.64	1331.76	(-) 748.53
Add: Discharge of Liabilities	14(3)(vi)	1211.32	54.99	108.62	36.69	32.46
Net Additional capital expenditure claimed (including discharges of liabilities)		2399.01	2287.41	68.98	1368.44	(-) 716.07

26. We now examine the actual additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period as under:

Main Plant Package, Stage-II

27. The Petitioner has claimed additional capital expenditure of Rs.55.03 lakh, on cash basis, in 2014-15 towards Main Plant Package, Stage-II under Regulation 14(3) (v) of the 2014 Tariff Regulations. The corresponding un-discharged liability is 'nil'. In justification of the claim, the Petitioner has submitted that this capitalization pertains to the settlement of dues with BHEL for the works, which were executed and put to use prior to 2004 and has therefore prayed that the Commission may allow the same, being related to the work which has already been admitted by Commission. Since the additional capital expenditure towards Main Plant Package, Stage-II is related to the settlement of liability for the work executed by BHEL, much prior to the cut-off date,



whim had already been admitted, we allow the claim under Regulation 14(3) (v) of the 2014 Tariff Regulations.

Package ERV

28. The Petitioner has not claimed any additional capital expenditure under this head on 'cash basis', during the 2014-19 tariff period. However, the Petitioners' claim on 'accrual basis' during the period 2014-19 is Rs.10.82 lakh [Rs.3.05 lakh in 2014-15, Rs.4.38 lakh in 2015-16, (-) Rs.1.38 lakh in 2016-17, (-) Rs.0.12 lakh in 2017-18, Rs.4.89 lakh in 2018-19]. Since, the entire liability against this package ERV is yet to be discharged, the claim on 'cash basis' is 'nil'. The Commission has consistently considered and allowed package ERV for the purpose of tariff. Since the amounts is undischarged, the expenditure allowable on cash basis is 'nil' for the 2014-19 tariff period.

Raising of Ash Dyke V2

29. The Petitioner has claimed additional capital expenditure of Rs.3290.17 lakh (Rs.936.29 lakh in 2014-15, Rs.1159.07 lakh in 2015-16 and Rs.1194.80 lakh in 2016-17), on cash basis, towards Raising of Ash Dyke V2 during the 2014-19 tariff period under Regulation 14(3) (iv) of the 2014 Tariff Regulation. The corresponding undischarged liabilities being Rs.160.86 lakh (Rs.43.62 lakh in 2014-15, Rs.88.14 lakh in 2015-16 and Rs.29.09 lakh in 2016-17) during the 2014-19 tariff period. In justification of the claim, the Petitioner has submitted that the anticipated expenditure towards this work, based on estimates made by the Petitioner and claimed at the time of filing Petition No. 327/GT/2014, has already been admitted by the Commission in its order dated 6.2.2017. The Petitioner has also submitted that the claim in the present petition is based on the actual award / capitalization value and the increase in cost is due to



increase in cost of sand and the quantity against the estimates made earlier, while claiming the projected additional capital expenditure for the 2014-19 tariff period.

30. The Respondent MPPMCL has questioned the need for ash dyke raising, in light of the requirement of ensuring 100% ash utilization by the generating stations under MOEFCC Notification. It has also stated that the Petitioner, while on one hand is charging fly ash transportation cost, it has on the other hand, claimed expenditure towards ash dyke raising. The Petitioner vide its rejoinder has submitted that the issue of ash transportation and raising of ash dyke are separate and has no bearing on the other. It has stated that the expenditure on account of ash transportation has been decided by the Commission and the same has been allowed for the generating station. On the other hand, the issue of raising of ash dyke is an operational issue within the plant and the capital expenditure on this account is necessary for smooth operation of the plant.

31. The matter has been considered. The Petitioner has claimed additional capital expenditure towards Ash Dyke Raising V2 amounting to Rs.3290.17 lakh (on cash basis) during the fag end of the useful life of the generating station, as against projected expenditure of Rs.2666 lakh allowed in order dated 6.2.2017 in Petition No. 327/GT/2014. In justification for the increase in the expenditure, the Petitioner has submitted that the claims earlier made were based on estimates, but the present claim is based on actual award / capitalization value. The Petitioner has also submitted that the increase in cost is also due to increase in cost and quantity of sand compared to the estimates made earlier when claiming the projected additional capital expenditure. Since Ash generation and ash disposal is a continuous process to be carried out from



time to time during the operating life of the plant to ensure successful running of the plant and keeping in view the Petitioner's submission that it has no plans for phasing out the generating station, in near future, we allow the Petitioner's claim under this head.

Inert Gas Fire Extinguisher

32. The Petitioner has claimed additional capital expenditure of Rs.211.44 lakh, on cash basis, in 2014-15 towards Inert Gas Fire Extinguisher under Regulation 14(3) (ii) of the 2014 Tariff Regulations. The corresponding un-discharged liability is Rs.37.97 lakh. In justification of the same, the Petitioner has submitted that the generating station is provided with Halon fire protection system, which uses the substance which are Ozone depleting in nature, as permanent firefighting system. It has stated that as per the Environment (Protection) Act 1986, the Central Government has laid down rules for Ozone Depleting Substances (Regulation and Control) Rules, 2000, wherein, no person or enterprises shall engage in any activity that uses Ozone depleting substances unless he is registered with the authority and the generating companies are allowed to continue with the existing fire-fighting system for a period of 10 years (up to 1.1.2010), after which the production and servicing of the same was stopped. The Petitioner has pointed out that as per Montreal Protocol on substances that deplete the Ozone layer, plants using Ozone depleting substances must phase out these systems and adopt systems which use substances that do not deplete the Ozone layer and therefore, it was proposed to replace Halon gas fire protection system with alternate inert gas in line with the Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2010 published in The Gazette of India No. 211 dated 20.8.2010. The Petitioner has also submitted that there shall be no life extension



of the plant as a whole and the life of the installed firefighting system shall be equivalent to that of a new system.

33. The Respondent MPPMCL has submitted that as the Petitioner was aware that capital expenditure for replacement of Halon Gas System with Inert Gas System is to be undertaken, prior approval of the Commission should have been taken, before implementing the scheme. It has also submitted that the Petitioner had not claimed projected expenditure on this asset in Petition No. 327/GT/2014 as it was fully aware of the fact that the same relates to operation and maintenance activity. Accordingly, MPPMCL has prayed that the claim of the Petitioner may be disallowed.

34. The matter has been considered. It is noticed that the Petitioner had claimed additional capital expenditure of this asset under 'Change in law' and had submitted that in terms of Montreal Protocol on substances that deplete ozone layer, plant using ozone depleting substances are required to phase out these systems and adopt systems that do not deplete the ozone layer. It is noticed that in order dated 2.9.2021 in Petition No. 300/GT/2020 (tariff of FGUTPS-II for 2014-19), the Commission had allowed the additional capitalization of this asset on the ground that the same is required as a statutory compliance under National Fire Protection Association Standard on Clean Agent Fire Extinguishing system (NFPA-2001). In this background, we allow the actual additional capital expenditure Rs.211.44 lakh in 2014-15 on cash basis for Inert Gas Fire Extinguishing system under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Further, the corresponding un-discharged liability of Rs.37.97 lakh in 2014-15, shall be considered at the time of actual discharge of liability. It is further noticed that the Petitioner has not de-capitalized the corresponding old asset from books of accounts



and has also not claimed any de-capitalizations. In the absence of the actual de-capitalization amount, the assumed deletion considered is Rs.122.93 lakh.

Flow Meter System

35. The Petitioner has claimed additional capital expenditure of Rs.56.83 lakh, on cash basis, in 2015-16 towards Flow Meter System under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The corresponding un-discharged liability is Rs.11.54 lakh. In justification of the same, the Petitioner has submitted that the Environmental Consent Order of Ministry of Environment & Forest (MOEF) received and the Water (Prevention and Control of Pollution Cess) Act, 1977 has mandated the installation of water meters at the intake of water. Accordingly, the Petitioner has claimed the said expenditure under change in law.

36. The Respondent MPPMCL has submitted that the claim of Flow Meter System under change in law is not justified as the Petitioner has claimed the said asset under the provisions of Water (Prevention and Control of Pollution Cess) Act, 1977. It has also submitted that against the requirement 44 MCM, the Petitioner has contracted for a capacity of 134 MCM, since inception of the project (VSTPS). The Respondent has also stated that the expenditure is of a very minor nature and may be considered under O&M expenses.

37. The matter has been considered. As per the Environmental Consent order of MOEF, GOI, the installation of flow meter is required in the generating station. However, to consider the claim under change in law, the Petitioner has not demonstrated that the requirement of flow meter was not mandated prior to the 'consent to operate' granted and hence the expenditure is incurred on this asset. Further, in the Water (Prevention



and Control of Pollution Cess) Act, 1977, it has been mandated to install water meters at the intake of water. Also, the generating station was in commercial operation since 1.10.2000 and hence, flow meter was required to form part of the original scope of work of the generating station. The Petitioner has furnished the actual water consumption of the generating station in 2014-15 i.e., prior to its claim for flow water meter in 2015-16. In this background, we are not inclined to allow the Petitioner's claim under this head.

Up-gradation and Retrofitting of Pro-controller

38. The Petitioner has claimed additional capital expenditure of Rs.1022.94 lakh, on cash basis, in 2015-16 towards up-gradation and retrofitting of Pro-controller under Regulation 14(3) read with Regulation 54 of the 2014 Tariff Regulations. The corresponding un-discharged liability is Rs.17.53 lakh. In justification of the same, the Petitioner has submitted that the HMI module has become obsolete and in order to make the system effective and to reduce breakdown, the system was replaced. It has stated that efficient and prompt response is necessary in order to enhance grid security and reliable operation of the station. The Petitioner has stated that old server was running on Windows NT (For SG/TG) and Unix OS (for BOP), Server, Monitor, Network switches and other peripherals had become obsolete, and spares were not available. Also, the failure rate of hard disk, motherboard, CRT monitors were very high and simulation of signals was not available in old system. It has further stated that New server is working on Windows server 2008 for which drivers and support are readily availed and the memory capacity of the new servers is considerably high. The Petitioner has pointed out that new modification is easy to implement in new system, simulation and monitoring of signals are easy, soft alarm feature is available in new HMI and the failure rate of new system is considerably low. Accordingly, the Petitioner has prayed to



allow the said asset for safety, reliability of the generating station and for the grid security.

39. The Respondent, MPPMCL has submitted that the claim under this head does not fall within the purview of Regulation 14(3) of the 2014 Tariff Regulations. It has also submitted that there is no provision under the 2014 Tariff Regulations to claim such expenses and in lieu of these, Compensation Allowance has been allowed. The Respondent has added that the claim may be considered under O&M expenses, being an operational and maintenance related issue.

40. The submissions have been considered. It is evident from the submissions that the HMI module having become obsolete, the Petitioner has replaced the same in order to make the system effective, reduce breakdowns and have efficient and prompt response as considered necessary for enhancing grid security and reliable operation of the station. It is also noticed that old server which were running on windows NT (For SG/TG) and Unix OS (for BOP), Server, Monitor, Network switches and other peripherals had also become obsolete, and since spares were also not available, the failure rate of hard disk, motherboard CRT monitors were very high and Simulation of signals was not available in the old system. In our view, the Petitioner was allowed Compensation Allowance under Regulation 17 of the 2014 Tariff Regulations, in order to meet expenditure on assets of capital nature including minor assets. We therefore find no reason to allow the claim by invocation of Regulation 54 of the 2014 Tariff Regulations. Accordingly, the additional capital expenditure claimed by the Petitioner is not allowed.



De-capitalization pertaining to modification of ESP

41. The Petitioner has claimed de-capitalization towards modification of ESP for (-) Rs.1050.00 lakh in 2016-17 and (-) Rs.150.00 lakh in 2017-18 under Regulation 14(4) of the 2014 Tariff Regulations. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets the original cost of such asset shall 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.

De-capitalization of Capital Spares (part of capital cost)

42. The Petitioner has claimed de-capitalization of capital spares, forming part of the admitted capital cost of (-) Rs.15.07 lakh in 2014-15, (-) Rs.6.42 lakh in 2015-16, (-) Rs.184.45 lakh in 2016-17, (-) Rs.660.87 lakh in 2017-18 and (-) Rs.748.53 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 asset shall 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

43. The Petitioner has claimed discharges of liabilities shown as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Out of liabilities deducted as on 1.4.2009	1108.29	0.00	45.39	0.32	0.00
Other liabilities	103.02	54.99	63.23	36.37	32.46
Total discharges claimed	1211.32	54.99	108.62	36.69	32.46

44. On scrutiny of Form-18 of the petition, it is observed that un-discharged liabilities corresponding to the allowed capital cost as on 1.4.2014, is Rs.1971.34 lakh



(Rs.1733.00 lakh pertaining to un-discharged liabilities deducted as on 1.4.2009 and Rs.238.34 lakh pertaining to other liabilities). However, the balance un-discharged liabilities as on 1.4.2014, corresponding to the allowed capital cost is only Rs.478.11 lakh (Rs.277.56 lakh pertaining to un-discharged liabilities deducted as on 1.4.2009 and Rs.200.55 lakh pertaining to other liabilities). Hence, the same has been considered for the purpose of tariff. Since, the discharges claimed by the Petitioner towards un-discharged liabilities deducted as on 1.4.2009 exceeds the corresponding balance liability of Rs.277.56 lakh as on 1.4.2014, the discharges allowed has been restricted to Rs.277.56 lakh during the year 2014-15. Further, the discharges of other liabilities include discharges of Rs.37.79 lakh, Rs.13.97 lakh and Rs.11.54 lakh during the years 2014-15, 2016-17 and 2017-18 respectively and reversal of Rs.3.55 lakh in 2016-17, towards assets/works disallowed for the purpose of tariff is not considered for the purpose of tariff. Accordingly, the discharges of un-discharged liabilities considered for the purpose of tariff are as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
342.80	54.99	49.26	24.83	32.46

45. Out of total liabilities deducted as on 1.4.2009, amounting to Rs.7820.25 lakh (with corresponding adjustment to cumulative repayment and cumulative depreciation amounting to Rs.4031.09 lakh and Rs.3256.58 lakh) the balance liabilities as on 1.4.2014 work out to Rs.277.56 lakh (with corresponding balance adjustment to cumulative repayment and cumulative depreciation amounting to Rs.863.66 lakh and Rs.138.03 lakh). Considering the fact that entire balance liability of Rs.277.56 lakh has been considered as discharged in 2014-15, the balance adjustments corresponding to cumulative repayment and cumulative depreciation of Rs.863.66 lakh and Rs.138.03



lakh, respectively has been considered in 2014-15. Further, the flow of un-discharged liability, corresponding to allowed assets/works, is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
(A) Out of liabilities deducted as on 1.4.2009					
Opening liability (a)	277.56	0.00	0.00	0.00	0.00
Addition during the year (b)	0.00	0.00	0.00	0.00	0.00
Discharges during the year (c)	277.56	0.00	0.00	0.00	0.00
Reversal during the year (d)	0.00	0.00	0.00	0.00	0.00
Closing liability (e) = (a+b-c-d)	0.00	0.00	0.00	0.00	0.00
(B) Other liabilities					
Opening liability (f)	200.55	219.95	257.48	209.79	184.83
Addition during the year (g)	84.64	92.52	27.71	(-) 0.12	4.89
Discharges during the year (h)	65.24	54.99	49.26	24.83	32.46
Reversal during the year (i)	0.00	0.00	26.15	0.00	7.01
Closing liability (j) = (f+g-h-i)	219.95	257.48	209.79	184.83	150.25
Total Closing liabilities (e+j)	219.95	257.48	209.79	184.83	150.25

46. Based on above, the summary of additional capital expenditure allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Main Plant Package, Stage-II	55.03	0.00	0.00	0.00	0.00
Works ERV	0.00	0.00	0.00	0.00	0.00
Raising of Ash Dyke V2	936.29	1159.07	1194.80	0.00	0.00
Inert Gas Fire Extinguisher ST-II	211.44	0.00	0.00	0.00	0.00
De-cap (assumed deletion of Inert Gas Fire Extinguisher ST-II)	(-) 122.93	0.00	0.00	0.00	0.00
De-cap pertaining to modification of ESP (Part of capital cost)		0.00	(-) 1050.00	(-) 150.00	0.00
De-cap of Spares (Part of capital cost)	(-) 15.07	(-) 6.42	(-) 184.45	(-) 660.87	(-) 748.53
Additional capital expenditure allowed (before discharges of liabilities)	1064.76	1152.65	(-) 39.64	(-) 810.87	(-) 748.53
Add: Discharge of Liabilities	342.80	54.99	49.26	24.83	32.46
Net Additional capital expenditure allowed (including discharges of liabilities)	1407.55	1207.64	9.61	(-) 786.04	(-) 716.07
Add: Exclusions disallowed	0.00	0.00	(-) 14.56	(-) 25.71	0.00
Net additional capital expenditure allowed	1407.55	1207.64	(-) 4.94	(-) 811.75	(-) 716.07



Capital Cost

47. Based on the above, the capital cost allowed for the purpose of tariff for the period 2014-19 is as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	252976.29	254383.84	255591.48	255586.54	254774.80
Add: Additional capital expenditure	1407.55	1207.64	(-) 4.94	(-) 811.75	(-) 716.07
Closing Capital Cost	254383.84	255591.48	255586.54	254774.80	254058.73
Average Capital Cost	253680.07	254987.66	255589.01	255180.67	254416.76

Debt Equity Ratio

48. Regulation 19 of the 2014 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.

49. Accordingly, the gross normative loan and equity amounting to Rs.177083.41 lakh and Rs.75892.89 lakh, respectively as on 1.4.2014 as considered in order dated 6.2.2017 in Petition No. 327/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 debt-equity ratio of 70:30. Accordingly, the details of debt-equity ratio in respect of the generating station as on 1.4.2014 and as on 31.3.2019 are as follows:

	Capital cost as on 1.4.2014 (Rs. in lakh)	(%)	Additional capital expenditure (Rs. in lakh)	(%)	De-capitalization (Rs. in lakh)	(%)	Total cost as on 31.3.2019 (Rs. in lakh)	(%)
Debt	177083.41	70.00	2842.68	70.00	2084.97	70.00	177841.11	70.00
Equity	75892.89	30.00	1218.29	30.00	893.56	30.00	76217.62	30.00
Total	252976.29	100.00	4060.97	100.00	2978.53	100.00	254058.73	100.00

Return on Equity

50. 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.”*

51. 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.”

52. The Petitioner has claimed tariff considering rate of return on equity of 19.611% in 2014-15, 19.706% 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, 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:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	75892.89	76315.15	76677.44	76675.96	76432.44
Addition of Equity due to additional capital expenditure	422.27	362.29	(-) 1.48	(-) 243.52	(-) 214.82
Normative Equity – Closing	76315.15	76677.44	76675.96	76432.44	76217.62
Average Normative Equity	76104.02	76496.30	76676.70	76554.20	76325.03
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)	14924.00	15073.60	15109.14	15085.00	15080.30

Interest on loan

53. 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.”

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

- i) The gross normative loan amounting to Rs.177083.41 lakh considered as on 1.4.2014 in order dated 6.2.2017 in Petition No. 327/GT/2014, has been retained for the purpose of tariff;
- ii) Cumulative repayment of Rs.177083.41 lakh as on 1.4.2014 as considered in order dated 6.2.2017 in Petition No. 327/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 NIL;
- iv) Addition to normative loan on account of additional capital expenditure approved above has been considered;
- v) Depreciation allowed has been considered as repayment of normative loan during the respective 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 of un-discharged liabilities deducted as on 1.4.2009;
- vi) The Petitioner has claimed interest on loan considering weighted average rate of interest of 2.34% during the 2014-19 tariff period, which is same as approved for 2013-14, in order dated 6.12.2016 in Petition No. 296/GT/2014. Since, the actual loan for 2014-15 is nil accordingly, in terms of above Regulation the last available weighted average rate of interest is considered for the purpose of tariff in the Petition.

55. Necessary calculation of interest of loan is as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan	177083.41	178068.69	178914.04	178910.58	178342.36
Cumulative repayment of loan up to previous year/ period	177083.41	178068.69	178914.04	178910.58	178342.36
Net Loan Opening	0.00	0.00	0.00	0.00	0.00



Addition on account of additional capital expenditure	985.29	845.35	(-) 3.46	(-) 568.22	(-) 501.25
Repayment of loan during the year	212.42	849.72	870.85	17.38	22.72
Less: Repayment adjustment on account of de-capitalization	90.80	4.37	874.30	585.61	523.97
Add: Repayment adjustment on account of discharges/ reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	863.66	0.00	0.00	0.00	0.00
Net Repayment	985.29	845.35	(-) 3.46	(-) 568.22	(-) 501.25
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	2.3400%	2.3400%	2.3400%	2.3400%	2.3400%
Interest on Loan	0.00	0.00	0.00	0.00	0.00

* Balance adjustment to cumulative repayment corresponding to un-discharged liabilities deducted as on 1.4.2009 is 'nil' as on 31.3.2019.

Depreciation

56. 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 up to 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

57. Cumulative depreciation amounting to Rs.162256.13 lakh as on 1.4.2014, as considered in order dated 6.2.2017 in Petition No. 327/GT/2014, has been considered as on 1.4.2014. The value of freehold land amounting to Rs.2167.80 lakh as considered in order dated 6.12.2016 in Petition No. 296/GT/2014, has been considered as on 1.4.2014 for existing assets. Accordingly, the balance depreciable value before providing depreciation for the year 2014-15 works out to Rs.64104.91 lakh in 2014-19 tariff period. The balance useful life of 11.38 years as on 1.4.2014, as considered in order dated 6.2.2017 in Petition No. 327/GT/2014, has been retained for the purpose of tariff. As stated above, out of the total depreciation adjustment corresponding to un-discharged liabilities deducted as on 1.4.2009 amounting to Rs.3256.58 lakh, the balance depreciation to be adjusted works out to Rs.138.03 lakh as on 1.4.2014 and the



same has been considered for the purpose of tariff. The depreciation has been computed considering spreading over of the balance depreciable value. Necessary calculations in support of depreciation are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Average capital cost (A)	253680.07	254987.66	255589.01	255180.67	254416.76
Value of freehold land included above (B)	2167.80	2167.80	2167.80	2167.80	2167.80
Depreciable Value (C) = [(A-B) x 90%]	226361.04	227537.88	228079.09	227711.58	227024.07
Remaining Depreciable value at the beginning of the year (D) = [C – ‘J’ of previous year]	64104.91	59598.92	54400.03	49107.44	43163.23
Balance useful life at the beginning of the year (E)	11.38	10.38	9.38	8.38	7.38
Depreciation during the year (F) = (D/E)	5635.60	5744.47	5802.67	5863.57	5852.64
Cumulative depreciation at the end of the year, before adjustment of de-capitalization adjustment (G) = (F + ‘J’ of previous year)	167891.73	173683.43	179481.73	184467.72	189713.48
Cumulative depreciation adjustment in respect of discharges/reversals pertaining to un-discharged liabilities deducted as on 1.4.2009 (H)	138.03	0.00	0.00	0.00	0.00
Cumulative depreciation adjustment on account of de-capitalization (I)	90.80	4.37	877.59	606.88	560.48
Cumulative depreciation, at the end of the year (J) = (G+H-I)	167938.96	173679.06	178604.15	183860.84	189153.01

* Cumulative Depreciation as on 1.4.2014 is Rs. 162256.13 lakh

* Balance adjustment to depreciation corresponding to un-discharged liabilities deducted as on 1.4.2009 is ‘nil’ as on 31.3.2019.

O&M Expenses

58. The Commission in its order dated 6.2.2017 in Petitioner No. 327/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)	2116.36	2116.36	2116.36	2116.36	2116.36
Capital spares	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses	18116.36	19126.36	20196.36	21336.36	22546.36



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	1867.96	1784.93	1671.75	1571.04	1622.74
- Capital Spares consumed	493.26	301.98	184.45	667.40	802.67
Sub-total O&M Expenses	18361.21	19096.91	19936.19	21458.44	22855.42
Impact of Wage revision	0.00	16.86	1058.62	1223.38	1501.98
Impact of GST	0.00	0.00	0.00	139.21	209.50
Arrears of water charges for the period prior to 2014-19	0.00	0.00	0.00	6767.80	0.00
Total O&M Expenses	18361.21	19113.77	20994.81	29588.83	24566.90

60. The normative O&M expenses claimed in terms of the Regulation 29(1)(a) of the 2014 Tariff Regulations were allowed by the Commission vide order dated 6.2.2017 in Petitioner No. 327/GT/2014. Accordingly, the same is allowed for the purpose of revision of tariff of the generating station.

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:

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”.

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. The water charges claimed by the Petitioner is 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	160	160	160/149	149	149
Actual water consumption for Stage-II	MCM	37.65	31.71	32.22	32.68	31.07
Rate of water charges	-	Rs.5.5/m ³				
Total water charges paid (for whole generating station)	Rs. in lakh	7957.51	7979.31	7957.51	7478.13	7381.94
Water charges paid for Stage-II and claimed in Petition	Rs. in lakh	1867.96	1784.93	1671.75	1571.04	1622.74

63. The water charges allowed, on projected basis, by the Commission in order dated 6.2.2017 in Petition No. 327/GT/2014 is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
2116.36	2116.36	2116.36	2116.36	2116.36

64. The Respondent, MPPMCL has submitted that the specific water consumption should be maximum of 3.5 m³/MWh as per Ministry of Environment, Forest and Climate Change (MOEFCC) Notification dated 7.12.2015. The Petitioner in its rejoinder has stated that the consumption of water charges for the generating station also falls in line with the water consumption specified as per CEA guidelines.

65. We have examined the matter. The water charges claimed in the Petition is lesser than those allowed on projected basis for the 2014-19 tariff period in order dated 6.2.2017 in Petition No. 327/GT/2014. The computations made by Respondent MPPMCL do not take into consideration the provisions of the agreement dated 27.12.2008 between the Petitioner and WRD, Govt. of M.P. The said agreement provides for payment of water charges for at least 90% of the total quantum of water



charges allowed to be drawn or the actual water drawn, whichever is higher. In view of this, the water charges claimed by the Petitioner is allowed as under:

<i>(Rs. in lakh)</i>						
	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Installed capacity of all Stages Vindhyachal STPS (A)	MW	4260	@ 4469.02	4760	4760	4760
Installed capacity of Stage-II (B)	MW	1000	1000	1000	1000	1000
Actual Water allocation/contracted for all Stages of Vindhyachal STPS as in 'A' above (C)	MCM	160.74	160.74	160.74/ 149.13	149.13	149.13
Worked out contracted capacity of water for Stage-II as in 'B' above (D) = [(C*B)/(A)]	MCM	37.73	35.97	32.35	31.33	31.33
90% of contracted capacity of water for Stage-II (E)=(90% of D)	MCM	33.96	32.37	29.12	28.20	28.20
Actual Water Consumption (F)	MCM	37.65	31.71	32.22	32.68	31.07
Rate of water charges (G)	<u>Rs/M³</u>	<u>5.5</u>				
Total water charges paid (for Stage-II generating station) (H)	Rs. in lakh	1867.96	1784.93	1671.75	1571.04	1622.74
Water charges allowed (I) considering higher of (E) or (F)	Rs. in lakh	1867.96	1784.93	1671.75	1571.04	1622.74

@ 4260 MW up to 30.10.2015 and 4760 MW thereafter.

Capital Spares

66. 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”.

67. 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 for the 2014-19 tariff period is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
493.26	301.98	184.45	667.40	802.67



68. 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 comprise of two categories as stated below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares (forming part of allowed capital cost)	15.07	6.42	184.45	660.87	748.53
Capital spares (not forming part of allowed capital cost)	478.18	295.56	0.00	6.53	54.15
Total capital spares consumed claimed	493.26	301.98	184.45	667.40	802.67

69. 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 being considered under this head. 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	493.26	301.98	184.45	667.40	802.67
Less: Capital spares (part of capital cost)	15.07	6.42	184.45	660.87	748.53



Total capital spares consumed (not part of capital cost)	478.18	295.56	0.00	6.53	54.15
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	7.37	5.38	0.00	1.35	5.32
Net total value of capital spares considered	470.81	290.18	0.00	5.19	48.83

70. Also, considering the fact that the original value of capital spares taken out of service is neither available nor has been furnished by the Petitioner for the 2014-19 tariff period, we are of the view that the salvage value of the capital spares being replaced is required to be deducted from the net total value of capital spares considered during the 2014-19 tariff period. In view of above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the 2014-19 tariff period. Accordingly, net capital spares allowed is summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	470.81	290.18	0.00	5.19	48.83
Less: Salvage value @ 10%	47.08	29.02	0.00	0.52	4.88
Net capital spares allowed	423.73	261.17	0.00	4.67	43.95

Additional O&M Expenses on account of Goods and Service Tax

71. The Petitioner has claimed additional O&M expenses of Rs.139.21 lakh in 2017-18 and Rs.209.50 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. MSEDCL also submitted that services are outsourced because of efficiency issue or lack of expertise within the company and it will obviously be lower than the cost of doing that job internally, further the O&M operating 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, this has generally resulted in reduction of overall applicable tax rate in the country and therefore the claim of the Petitioner does not appear to be in order. The Petitioner in its rejoinder 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 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%.

72. The submissions of the parties 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...”

73. 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 payment of GST.



Additional O&M Expenses on account of impact of Wage Revision

74. 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.16.86 lakh in 2015-16, Rs.1058.62 lakh of in 2016-17, Rs.1223.38 lakh in 2017-18 and Rs.1501.98 lakh in 2018-19 towards impact of wage revision of employees of CISF and Kendriya Vidyalaya (KV) 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 29.6.2021 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 Vindhyachal 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 & Kendriya Vidyalaya employee of the generating station for the 2014-19 tariff period.

75. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed total amount of Rs.3800.84 lakh (Rs.16.86 lakh in 2015-16, Rs.1058.62 lakh of in 2016-17, Rs.1223.38 lakh in 2017-18 and Rs.1501.98 lakh in 2018-19) as impact of wage revision of employees of CISF and Kendriya Vidyalaya staff 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.109.80 lakh in 2017-18 and



Rs.428.30 lakh in 2018-19. As such, as per consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for finalization of O&M norms for various tariff settings, the additional PRP/ex-gratia, paid as a result of wage revision impact has been excluded from the wage revision impact claimed by the Petitioner, in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stand reduced to Rs.3262.74 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	16.86	1058.62	1113.56	1073.70	3262.74

76. 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 macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.

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.”

77. 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.

78. 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.

79. 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, Stage-II,



Stage-III, Stage-IV and Stage-V of the Vindhyachal 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:

“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 Exgratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.”

80. The details as furnished by the Petitioner for actual O&M expenses incurred for Stage-I, Stage-II, Stage-III and Stage-IV (4260 MW) for the period from 1.4.2014 to 30.10.2015 and for Stage-I to Stage-V (4760 MW) for the period from 31.10.2015 to 31.3.2019, and the wage revision impact (excluding PRP and ex-gratia) for the generating station (Stage-II 1000 MW) are as under:



(Rs. in lakh)

Year	Actual O&M expenses for whole Vindhyachal STPS, excluding water charges & capital spares	Wage revision impact claimed for the generating station i.e. Vindhyachal STPS, Stage-II (1000 MW)
2014-15	72955.79	0.00
2015-16	81611.87	16.86
2016-17	89453.17	1058.62
2017-18	92109.77	1113.56
2018-19	99608.05	1073.70
Total		3262.74

81. As a first step, the expenditure against sub-heads of O&M expenses as indicated in paragraph 79 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 to Stage-IV till 30.10.2015 for 4260 MW and Stage-I to Stage-V from 31.10.2015 to 31.3.2019 for 4760 MW). 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. Vindhyachal STPS, Stage-II (1000 MW) for the period 2015-19 is as follows:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I to Stage-IV till 30.10.2015 for 4260 MW and Stage-I to V from 31.10.2015 to 31.3.2019 for 4760 MW) – (a)	73251.76	83374.34	84765.58	89741.21	331132.89
Actual O&M expenses (normalized) for the generating station i.e., Vindhyachal STPS, Stage-II (1000 MW) pro-rated based on capacity – (b)	16391.03	17515.62	17807.90	18853.19	70567.73
Normative O&M expenses for Vindhyachal 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)]	(-) 618.97	(-) 564.38	(-) 1412.10	(-) 1576.81	(-) 4172.27



Wage revision impact claimed (excluding PRP/ex-gratia)	16.86	1058.62	1113.56	1073.70	3262.74
--	-------	---------	---------	---------	---------

82. It is observed that for wage revision impact during the period 2015-19, the normative O&M expenses are in excess of the actual O&M expenses (normalized) and the excess recovery is to the tune of Rs.4172.27 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) claimed by the Petitioner is not allowed for this generating station.

83. Accordingly, the total O&M expenses allowed to the generating station for the 2014-19 tariff period is as under

	<i>(Rs. in lakh)</i>				
	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 Tariff Regulations (b)	16000.00	17010.00	18080.00	19220.00	20430.00
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations (c)	1867.96	1784.93	1671.75	1571.04	1622.74
Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)	1867.96	1784.93	1671.75	1571.04	1622.74
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations (e)	493.26	301.98	184.45	667.40	802.67
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)	423.73	261.17	0.00	4.67	43.95
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	18361.21	19096.91	19936.19	21458.44	22855.42
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)	18291.69	19056.10	19751.75	20795.70	22096.69
Impact of Wage revision claimed	0.00	16.86	1058.62	1223.38	1501.98
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	139.21	209.50
Impact of GST allowed	0.00	0.00	0.00	0.00	0.00



Payment of arrears of Water Charges

84. The Petitioner has submitted that Water Resource Department of Madhya Pradesh raised a fresh demand of Rs.92558 lakh towards Water charges for the period 1.4.1988 to 23.12.2008. After a number of deliberations, the negotiated demand of Rs.30556 lakh was raised by Water Resource Department in April, 2018. Subsequently, the payment was made by the Petitioner in 2017-18. Out of the total amount of Rs.30556 lakh, the Petitioner has claimed recovery of Water charges paid in arrears for this generating station (Vindhyachal Stage II) in two parts (a) amount of Rs.2142.63 lakh as additional capital expenditure in 2017-18 related to expenditure during construction and (b) amount of Rs.6767.80 lakh as O&M expenses in 2017-18.

85. It is observed that the Water Resource Department, Government of Madhya Pradesh vide its letter dated 24.7.2018 (in vernacular language) has directed the Petitioner to pay arrears of Water charges, amounting to Rs.30556 lakh in 2017-18 as stated below:

“The water charges payable by NTPC for usage of water from 1.4.1988 to 31.12.2017 is ascertained as Rs. 934.91 Cr. after adjusting the total amount of Rs. 784.44 Cr paid by NTPC the balance payable amount towards water charges comes out to Rs. 150.47 Cr. as on 31.12.2017.

Further, due to nonpayment of water charges for the aforesaid period an interest of Rs. 155.09 Cr is leviable on the outstanding amount.”

86. Based on the submissions, we proceed to examine the claim of Petitioner towards the Arrears of Water Charges

(a) Arrear of water charges (Expenditure During Construction)

87. The Petitioner has claimed additional capital expenditure of Rs.2142.63 lakh in 2017-18 under Regulation 14(3)(ii) read with Regulation 54 of the 2014 Tariff Regulations towards capitalized portion of arrears of water charges pertaining to period



during which the generating station was under construction. The Petitioner has submitted that the bill of arrear amount has been raised fresh for the first time by the Irrigation Department of and the same has been paid in 2017-18 and capitalized in books of accounts relating to the construction period of the plant. The Petitioner has further prayed to allow the same as additional capital expenditure under 'Change in law' in exercise of the Power to relax.

88. The Respondent MPPMCL has submitted that the claim of the Petitioner is not maintainable as the water charges pertain to the previous period, when no water charges were admissible separately, as it formed part of the O&M expenses till the 2009 Tariff Regulations. It has also submitted that the generating station was commissioned in the year 2000 and the additional capital expenditure is claimed in the year 2017-18 i.e. after 18 years. The Respondent has also submitted that these charges will be loaded to new consumers, which were not part of the system for the period of 18 years, and therefore, the claim of the Petitioner may be rejected. The Petitioner in its rejoinder has submitted that when the 2009 Tariff Regulations were specified, such charges were not factored in the normative O&M expenses specified by the Commission. The Petitioner has also submitted that the levy of arrear water charges is pursuant to WRD letter in April 2018 and falls within the scope and meaning of 'change in law' as per Regulation 3(9) of the 2014 Tariff Regulations.

89. We have considered the matter. It is observed that the generating station has been forced to pay the arrears of water charges as per revised arrear bill raised by the Water Resource Department, Government of Madhya Pradesh (WRD). The part of the arrears of water charges pertaining to the construction period of the generation station



has been capitalized by the Petitioner and claimed as additional capital expenditure, in 2017-18 under Regulation 14(3) (ii) read with Regulation 54 of the 2014 Tariff Regulations. In our view, allowing the additional capitalization of the said charges after 17 years of commercial operation of the generating station is not justifiable. However, as the expenditure has been incurred, we, in exercise of power to relax under Regulation 54 of the 2014 Tariff Regulations, allow the water charges, as additional O&M expenses with direction that the same is payable by the beneficiaries in twelve equal monthly installments. Keeping in view the consumer interest, we, as a special case, direct that no interest shall be charged by the Petitioner on the arrear water charges allowed under this head. This arrangement, in our view, will balance the interest of both, the Petitioner and the Respondents. Also, considering the fact that the said arrear of water charges is being allowed in exercise of the power to relax, these expenses are not made part of the O&M expenses and consequential annual fixed charges being determined in this order under the 2014 Tariff Regulations.

(b) Arrear of water charges (O&M Expenses)

90. The Petitioner has claimed additional O&M expenses of Rs.6767.80 lakh in 2017-18 on account of payment of arrears of water charges for the period prior to 2014-19 tariff period. The Petitioner has submitted that 150 cusec of water was in-principally allocated, subject to signing of agreement with Water Resource Department, Government of Madhya Pradesh (WRD), to the generating station w.e.f. 1.4.1988 from Rihand reservoir. It has also stated that though the Rihand reservoir was constructed by the Government of Uttar Pradesh, the catchment area is mainly located in the State of Madhya Pradesh, which led to a dispute between these two Governments, on the rights of stored water and the beneficiary of charges of water supplied to the Vindhyachal



STPS. Accordingly, no bills were being raised for the water consumption by Vindhyachal STPS. It has further stated that the M.P. Irrigation Department raised the first ever bill on 5.3.2004 based on actual quantity drawn for the period from 6.3.1988 to January 2004, and the same was duly paid by the Petitioner. Subsequently, the generating station continued to pay the water charges based on actual consumption till the signing of agreement of 180 cusec for supply of water to Vindhyachal STPS with WRD on 27.12.2008. The Petitioner has submitted that the said agreement provided for payment of water charges based on the actual water consumption or 90% of the allocated quantity, whichever is higher. It has stated that in the month of July 2016, the WRD, raised a fresh demand of Rs.925.58 crores for Water charges, comprising of differential payment on account of payment of water charges for the period from 1.4.1988 to 26.12.2008, along with applicable interest and penal charges for the period of construction, as well as operation, for these stations and finally, after number of deliberations, between both the parties, the revised arrear bill for Rs.305.56 crore was raised by the WRD in April 2018 and the Petitioner made the payment of the same in 2017-18. The Petitioner has pointed out that out of arrear bill of Rs.305.56 crore, the Petitioner has allocated and claimed Rs.17914.69 lakh (Rs.417.73 lakh as IEDC for the construction period and Rs.17496.96 lakh as revenue expenditure for operating period) for the generating station. The Petitioner has added that the Water charges pertaining to the construction period of the stations have been capitalized in the books of accounts and has been claimed as additional capital expenditure under change in law and the water charges pertaining to operating period has been booked under revenue expenditure and claimed as reimbursement for the generating station.



91. We have considered the matter. Since the expenditure has been incurred by the Petitioner, we are of the view that the said expenditure is allowable, as additional O&M charges in exercise of power under Regulation 54 of the 2014 Tariff Regulations and shall be payable by the beneficiaries in twelve equal monthly installments. Keeping in view the consumer interest, we, as a special case, direct that no interest shall be charged by the Petitioner on the arrear water charges allowed in this order. This arrangement, in our view, will balance the interest of both, the Petitioner and the Respondents. Also, considering the fact that the said arrear of water charges is being allowed in exercise of the power to relax, these expenses are not made part of the O&M expenses and consequential annual fixed charges being determined in this order under the 2014 Tariff Regulations.

Operational Norms

92. The operational norms in respect of the generating station i.e. normative annual plant availability factor, gross station heat rate, specific fuel oil consumption and auxiliary power consumption are discussed as under:

Normative Annual Plant Availability Factor

93. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the Commission vide its order dated 6.2.2017 in Petitioner No. 327/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 revision of tariff.

Gross Station Heat Rate (kCal/kWh)

94. In terms of Regulation 36(C)(a) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2375 kCal/kWh as allowed vide Commission's order dated



6.2.2017 in Petitioner No. 327/GT/2014, is considered for the purpose of revision of tariff.

Specific Oil Consumption

95. 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 Commission's order dated 6.2.2017 in Petitioner No. 327/GT/2014, is considered for the purpose of revision of tariff.

Auxiliary Power Consumption

96. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 5.75% as allowed vide Commission's order dated 6.2.2017 in Petitioner No. 327/GT/2014, is considered for the purpose of revision of tariff.

Interest on Working Capital

97. 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 for computation of Working Capital

98. 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. Regulation 30(6)(a) of the 2014 Tariff Regulations provides as under:

“30. Computation and Payment of Capacity Charge and Energy Charge for Thermal Generating Stations:

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

(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”.

99. In terms of the above regulation, for determination of energy charges in working capital, the GCV on ‘as received’ basis is to be considered.

100. 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.”

101. The Regulations for computation of energy charges was challenged by the Petitioner and other generating issue of ‘as received’ GCV specified in Regulation 30 of the 2014 Tariff companies through various writ petitions filed before the Hon’ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC). The Hon’ble Court 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.”

102. The Review Petition No.11/RP/2016 filed by the Petitioner against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. The Petitioner has also filed Petition No. 244/MP/2016 before this Commission inter alia praying for removal of difficulties in view of the issues faced by it in implementing the Commission’s orders dated 25.1.2016 and 30.6.2016



with regard to sampling of coal from loaded wagon top for measurement of GCV. The Commission by its order dated 19.9.2018 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 adjudication.

103. In Petition No. 327/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 6.2.2017 in Petition No.327/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.

104. As per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014, the Petitioner in Form-13 F 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. The Petitioner has further submitted that CEA vide letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on "as received" and on "as fired basis" respectively. Accordingly, the Petitioner has considered a margin of 100 kCal/kg on average GCV of coal for the period from October 2016 to March 2019 for computation of working capital of the generating station. Accordingly, the cost of fuel component in



the working capital of the generating station based on (i) 'as received' GCV of coal for 30 months from October 2016 to March 2019 with adjustment of 100 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months i.e. January 2014 to March 2014 and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months i.e. January 2014 to March 2014 for the generating station, the Petitioner has claimed the cost of fuel component in the working capital as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days)	3839.62	3839.62	3839.62	3932.14	3932.14
Cost of Coal towards Generation (30 days)	7679.24	7679.24	7679.24	7864.29	7864.29
Cost of Secondary fuel oil (2 months)	318.65	319.52	318.65	326.33	326.33

105. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 139.1 paise/kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as indicated above.

106. The Petitioner suo-moto submitted the additional details on the GCV on 'as received' basis which is sought by the Commission in other similar matters 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 29.6.2021 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, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV should 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 on actual GCV i.e. 'as fired' GCV. The Petitioner has submitted that without prejudice to the above submissions, it 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 in other similar matters 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	3853.27	17.90	7.50	3420.03
2	February 2014	3881.99	17.40	6.60	3729.77
3	March 2014	3956.01	17.77	6.81	3490.75
	Average				3447.96

107. The submissions have been considered. As stated in paragraph 104 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.

108. 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. 327/GT/2014. In the 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.

109. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as in table under paragraph 99 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."

110. Thus, 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.

111. 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.

112. The Petitioner has calculated GCV 3447.96 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 (in table at paragraph 99 above) works out to 3548.82 kCal/kg.

113. 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 3548.82 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.

114. 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)	3840.37	3840.37	3840.37	3932.91	3932.91
Cost of Coal towards Generation (30 days of generation)	7680.75	7680.75	7680.75	7865.83	7865.83
Cost of Secondary fuel oil (2 months of generation)	318.39	319.26	318.39	326.06	326.06

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

Energy Charge Rate for computation of working capital

116. 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:

(b) 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”.

117. The Petitioner has claimed Energy Charge Rate (ECR) of 139.100 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 3548.82 kCal/kg is worked out as under:

	Unit	2014-19
Capacity	MW	1000
Gross Station Heat Rate	kCal/kWh	2375.00
Aux. Energy Consumption	%	5.75
Weighted average GCV of oil	kCal/lit	9617.33
Weighted average GCV of Coal	Kcal/kg	3548.82
Weighted average price of oil	Rs./KL	52548.03
Weighted average price of Coal	Rs./MT	1924.39
Rate of Energy Charge ex-bus	Rs./kWh	1.392

118. The Energy Charges for two months of generation for computation of working capital based on ECR of Rs.1.392/kWh, has been worked out as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
15898.33	15941.89	15898.33	16281.42	16281.42

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for 45 days of generation (15 days towards coal stock and 30 days towards generation)	11521.12	11521.12	11521.12	11798.74	11798.74



Cost of Secondary fuel oil for 2 months of generation	318.39	319.26	318.39	326.06	326.06
Energy Charges for 2 months of generation	15898.33	15941.89	15898.33	16281.42	16281.42

Working Capital for Maintenance Spares

120. 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
3672.24	3822.75	4198.96	5917.77	4913.38

121. 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
3658.34	3811.22	3950.35	4159.14	4419.34

Working Capital for Receivables

122. 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 of generation	15898.33	15941.89	15898.33	16281.42	16281.42
Fixed Charges - for two months of generation	7382.02	7562.43	7700.54	7907.00	8134.64
Total	23280.35	23504.32	23598.87	24188.42	24416.06



Working capital for O&M Expenses

123. The O&M expenses for 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
1530.10	1592.81	1749.57	2465.74	2047.24

124. For consideration of working capital, O&M expenses of 1 month are to be considered. 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 O&M expenses for 1 month as a part of working capital.

125. Accordingly, in terms of Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations, 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
1524.31	1588.01	1645.98	1732.98	1841.39

126. 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). 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)	3840.37	3840.37	3840.37	3932.91	3932.91
Working Capital for Cost of Coal towards generation (30 days)	7680.75	7680.75	7680.75	7865.83	7865.83
Working Capital for Cost of Secondary fuel oil (2 months)	318.39	319.26	318.39	326.06	326.06
Working Capital for Maintenance Spares @ 20% of O&M expenses	3658.34	3811.22	3950.35	4159.14	4419.34
Working Capital for Receivables – 2 months	23280.35	23504.32	23598.87	24188.42	24416.06
Working Capital for O&M expenses – 1 month	1524.31	1588.01	1645.98	1732.98	1841.39



	2014-15	2015-16	2016-17	2017-18	2018-19
Total Working Capital	40302.51	40743.93	41034.71	42205.34	42801.59
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
Interest on Working Capital	5440.84	5500.43	5539.69	5697.72	5778.21

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

Compensation Allowance

128. Regulation 17 of the 2014 Tariff Regulations provides as under:

“17. Compensation Allowance: (1) In case of coal-based or lignite-fired thermal generating station or a unit thereof a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations and in such an event revision of the capital cost shall not be allowed on account of compensation allowance, but the compensation allowance shall be allowed to be recovered separately.

(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of the useful life.”

Years of operation	Compensation Allowance (Rs. lakh/MW/year)
0-10	Nil
11-15	0.20
16-20	0.50
21-25	1.00

129. The Commission in its order dated 6.2.2017 in Petition No. 327/GT/2014 had allowed compensation allowance of Rs.200.00 lakh in each year of 2014-16 and Rs.500.00 lakh in each year of 2016-19 period, for the generating station. The same has been considered by the Petitioner and is allowed for the 2014-19 tariff period.

Annual Fixed Charges

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

	(Rs in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5635.60	5744.47	5802.67	5863.57	5852.64
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	14924.00	15073.60	15109.14	15085.00	15080.30
Interest on Working Capital	5440.84	5500.43	5539.69	5697.72	5778.21
O&M Expenses	18291.69	19056.10	19751.75	20795.70	22096.69



Compensation Allowance	200.00	200.00	500.00	500.00	500.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	44492.12	45574.60	46703.25	47942.00	49307.84

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.

131. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 6.2.2017 in Petition No. 327/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8(13) of the 2014 Tariff Regulations.

132. Petition No. 241/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(P.K. Pujari)
Chairperson

