

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 234/GT/2020

Coram:

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri Pravas Kumar Singh, Member

Date of Order: 15th June, 2023

IN THE MATTER OF:

Petition for truing-up of tariff of Rajiv Gandhi CCPP, Kayamkulam (359.58 MW) for the period 2014-19.

AND

IN THE MATTER OF

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

.... Petitioner

Vs

Kerala State Electricity Board Limited,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram – 695004

.....Respondent

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
Shri Anand K. Ganesan, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Deepak Thakur, Advocate, NTPC

ORDER

This petition has been filed by the Petitioner, NTPC Limited for truing-up of tariff of Rajiv Gandhi Combined Cycle Power Project, Kayamkulam (359.58 MW) (in short 'the generating station') for the period from 1.4.2014 to 31.3.2019, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations'). The



generating station with a capacity of 359.58 MW, comprises of two Gas Turbine units of 116.60 MW each and one Steam Turbine (ST) unit of 126.38 MW. The dates of commercial operation of the different units of the generating station are as under:

	COD
Unit-I (GT)	1.1.1999
Unit-II (GT)	1.5.1999
Unit-III (ST)/Generating Station	1.3.2000

2. The Commission vide its order dated 27.10.2016 in Petition No. 269/GT/2014, had approved the capital cost and annual fixed charges of the generating station for the period 2014-19, as under:

Capital Cost allowed

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	125041.54	125116.54	125116.54	125116.54	125286.54
Add: Addition during the year/ period	75.00	0.00	0.00	170.00	0.00
Closing capital cost	125116.54	125116.54	125116.54	125286.54	125286.54
Average capital cost	125079.04	125116.54	125116.54	125201.54	125286.54

Annual Fixed Charges allowed

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1931.95	1935.59	1935.59	1946.11	1958.32
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7276.50	7313.97	7313.97	7319.00	7324.02
Interest on Working Capital	13985.54	14032.68	14038.39	14067.15	14097.86
O&M Expenses	5280.04	5610.85	5963.24	6337.20	6736.34
Total	28474.03	28893.09	29251.19	29669.46	30116.54

Present Petition

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

“8. Truing up

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:

Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”



4. Accordingly, in terms of the above regulations, the Petitioner has filed this petition and has claimed the capital cost and annual fixed charges, for the period 2014-19, as under:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	125041.54	125736.79	125787.03	125790.72	125789.32
Add: Addition during the year	692.60	25.64	3.55	2.60	3.99
Less: De-capitalisation during the year	0.00	0.00	2.78	4.00	0.00
Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year	2.65	24.60	2.91	0.00	0.00
Closing capital cost	125736.79	125787.03	125790.72	125789.32	125793.31
Average capital cost	125389.16	125761.91	125788.88	125790.02	125791.32

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1938.94	1950.72	1950.99	1951.19	1950.90
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7295.12	7352.50	7354.09	7354.16	7373.64
Interest on Working Capital	13998.53	14096.77	14104.34	14146.17	14190.25
O&M Expenses	5441.68	6398.16	6007.01	6346.21	6767.35
Total (A)	28674.27	29798.15	29416.43	29797.72	30282.14
Additional O&M Expenditure					
Impact of Pay Revision	0.00	38.61	806.07	950.32	1069.77
Impact of GST	0.00	0.00	0.00	67.26	101.05
Ash Transportation Expenditure	0.00	0.00	0.00	0.00	0.00
Total Additional O&M Expenditure (B)	0.00	38.61	806.07	1017.58	1170.82
Total (A+B)	28674.27	29836.76	30222.50	30815.30	31452.96

5. The Respondent, KSEBL has filed its reply vide affidavit dated 20.7.2021 and the Petitioner has filed rejoinder to the said reply, vide affidavit dated 29.9.2021. The Petitioner has also filed certain additional information vide its affidavits dated 30.6.2021 and 16.7.2021, after serving copy on the Respondent. The Petition was heard through video conferencing on 23.8.2022, wherein, none appeared on behalf of the Respondent and the Commission, reserved its order in the matter. Based on the submissions of the parties and the documents available on record and on prudence



check, we proceed for truing-up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

Capital Cost

6. 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 capitalisation and de-capitalisation for the respective year of tariff as determined in accordance with Regulations 14; and*
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15;”*

7. The Commission vide order dated 27.10.2016 in Petition No. 269/GT/2014, had approved the opening capital cost of Rs.125041.54 lakh (on cash basis), the corresponding un-discharged liability being Rs.75.00 lakh (Rs.50.59 lakh pertaining un-discharged liabilities deducted from capital cost as on 1.4.2009 and Rs.24.41 lakh pertaining to liability addition during 2009-14), as on 1.4.2014. Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs.125041.54 lakh, as on 31.3.2014, has been considered as the opening capital cost as on 1.4.2014.

Additional Capital Expenditure

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

“14. Additional Capitalisation and De-capitalisation:

(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 recognised 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 recognised 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-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

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

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

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

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

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

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Closing gross block as per audited books *	132646.26	134657.43	56005.46	56369.05	56543.44
Less: Opening gross block as per audited books *	128260.19	132646.26	55501.03	56005.46	56369.05
Additional capital expenditure as per audited books *	4386.08	2011.17	504.42	363.59	174.39
Less: IND AS adjustment	-	-	79.28	8.98	26.00
Additional capital expenditure as per IGAAP for the generating station	4386.08	2011.17	425.14	354.61	148.39
Less: Exclusions	3618.31	1981.92	414.43	349.63	128.91
Additional capital expenditure claimed (on accrual basis)	767.76	29.24	10.72	4.99	19.48
Less: Un-discharged liabilities included above	75.17	3.60	9.94	6.39	15.49



Additional capital expenditure claimed (on cash basis)	692.59	25.64	0.77	(-) 1.40	3.99
Add: Discharges of liabilities	2.65	24.60	2.91	-	-
Net additional capital expenditure including discharges (on cash basis)	695.24	50.25	3.69	(-) 1.40	3.99

* As per IGAAP for the period 2014-16 and as per IND AS for the period 2016-19.

10. We now examine the exclusions in following paragraphs.

Exclusions

11. The summary of exclusions from the books of accounts, as claimed (on accrual basis) by the Petitioner is as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Items not claimed as additional capital expenditure in 2014-19	146.99	191.66	104.05	247.41	-
Capitalization of capital spares	3291.15	1476.44	374.33	63.45	76.15
Inter-unit transfer of assets	360.69	984.29	(-) 4.83	(-) 1.23	(-) 30.73
De-capitalisation of spares (not part of capital cost)	(-) 161.64	(-) 787.31	(-) 45.36	(-) 9.03	(-) 35.10
Capitalisation of MBOA	80.84	151.06	64.57	52.93	172.62
De-capitalisation of MBOA (not part of capital cost)	(-) 22.93	(-) 3.63	(-) 30.25	(-) 2.65	(-) 51.75
De-capitalisation of MBOA (part of capital cost)	(-) 26.36	-	(-) 33.75	(-) 1.25	(-) 2.28
De-capitalisation of plant and machinery (part of capital cost)	-	(-) 0.39	-	-	-
De-capitalisation of plant and machinery (not part of capital cost)	-	(-) 0.17	-	-	-
Software	-	6.72	-	-	-
Reversal of liabilities	(-) 50.42	(-) 36.74	(-) 14.34	-	-
Total Exclusions claimed	3618.31	1981.92	414.43	349.63	128.91

Items not claimed as additional capitalisation for the period 2014-19, including software

12. The Petitioner has claimed an amount of Rs.146.99 lakh in 2014-15, Rs.198.38 lakh in 2015-16, Rs.104.05 lakh in 2016-17 and Rs.247.41 lakh in 2017-18, towards the items that were not claimed as additional capital expenditure in the period 2014-19. The items under this head include R&M activities of various systems and associated decapitalisation. It is observed that the Petitioner has not claimed any



additional capital expenditure of these items during the period 2014-19. In view of the same, the claim of the Petitioner under the above heads is allowed under exclusion.

Capitalisation of capital spares

13. The Petitioner has claimed exclusion of capital spares of Rs.3291.15 lakh in 2014-15, Rs.1476.44 lakh in 2015-16, Rs.374.33 lakh in 2016-17, Rs.63.45 lakh in 2017-18 and Rs.76.15 lakh in 2018-19. In justification for the same, the Petitioner has submitted that the capital spares capitalized after the cut-off date, are not allowable as per the 2014 Tariff Regulations and accordingly the same has been claimed as exclusion. As 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 claim of the Petitioner is allowed.

Inter-unit transfer of assets

14. The Petitioner has claimed exclusion of Rs.360.69 lakh in 2014-15, Rs.984.29 lakh in 2015-16, (-) Rs.4.83 lakh in 2016-17, (-) Rs.1.23 lakh in 2017-18 and (-) Rs.30.73 lakh in 2018-19, on account of inter-unit transfer of assets to/from the generating station. In justification for the same, the Petitioner has submitted that since the Commission is not considering the temporary inter-unit transfer of assets, for the purpose of tariff, the same has been kept under exclusions. The Commission, in its various orders while dealing with the application for additional capitalisation in respect of other generating stations of the Petitioner had decided that both positive and negative entries arising out of inter-unit transfers of a temporary nature shall be ignored for the purposes of tariff. In line with the said decision, the exclusion of the said amounts on account of inter-unit transfer is allowed.



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

15. The Petitioner has claimed exclusion of de-capitalisation of capital spares of Rs.161.64 lakh in 2014-15, Rs.787.31 lakh in 2015-16, Rs.45.36 lakh in 2016-17, Rs.9.03 lakh in 2017-18 and Rs.35.10 lakh in 2018-19. In justification for the same, the Petitioner has submitted that these capital spares do not form part of allowed capital cost of the generating station and accordingly their de-capitalisation has been claimed as exclusions. It is observed from the submission of the Petitioner that these capital spares do not form part of the capital cost allowed to the generating station. Accordingly, the Petitioner's claim for exclusion under this head is allowed.

Capitalization of MBOA

16. The Petitioner has claimed an amount of Rs.80.84 lakh in 2014-15, Rs.151.06 lakh in 2015-16, Rs.64.57 lakh in 2016-17, Rs.52.93 lakh in 2017-18 and Rs.172.62 lakh in 2018-19 as capitalisation of MBOA under exclusion. In justification for the same, the Petitioner has submitted that capitalization of MBOA beyond cut-off date is not admissible as per the 2014 Tariff Regulations and accordingly the capitalization of these MBOA are claimed under exclusion. As capitalization of MBOA after the cut-off date of the generating station is not allowed as part of capital cost as per the 2014 Tariff Regulations, the claim of the Petitioner is allowed.

De-Capitalization of MBOA (not part of capital cost)

17. The Petitioner has claimed exclusion of de-capitalisation of MBOA of Rs.22.93 lakh in 2014-15, Rs.3.63 lakh in 2015-16, Rs.30.25 lakh in 2016-17, Rs.2.65 lakh in 2017-18 and Rs. 51.75 lakh in 2018-19. In justification for the same, the Petitioner has submitted that these MBOA's do not form part of the allowed capital cost of the generating station and accordingly their de-capitalisation has been claimed as



exclusions. Since, these de-capitalised MBOA's do not form part of the allowed capital cost of the generating station, the exclusion claimed under this head is allowed.

De-capitalization of MBOA (part of capital cost)

18. The Petitioner has claimed exclusion of de-capitalisation of MBOA's of Rs.26.36 lakh in 2014-15, Rs.33.75 lakh in 2016-17, Rs.1.25 lakh in 2017-18 and Rs.2.28 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as the capitalisation of expenditure against these items are not being allowed for the purpose of tariff under the 2014 Tariff Regulations, the de-capitalisation of the same has been claimed as exclusions. Since Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets, the original cost of such assets shall be removed from the admitted capital cost of the generating station, the claim of the Petitioner under this head is not allowed.

De-Capitalization of Plant and Machinery (not part of capital cost)

19. The Petitioner has claimed exclusion of de-capitalisation of plant and machinery of Rs.0.17 lakh in 2015-16. In justification for the same, the Petitioner has submitted that these plant and machinery do not form part of the allowed capital cost of the generating station and accordingly their de-capitalisation has been claimed as exclusions. Since these de-capitalised Plant & Machinery do not form part of the allowed capital cost of the generating station, the exclusion claimed under this head is allowed.

De-Capitalization of Plant and Machinery (part of capital cost)

20. The Petitioner has claimed exclusion of de-capitalisation of plant and machinery of (-) Rs.0.39 lakh in 2015-16. In justification for the same, the Petitioner has submitted that as the capitalisation of expenditure against these items are not being allowed for the purpose of tariff under the 2014 Tariff Regulations, the de-capitalisation of the



same has been claimed as exclusions. Since, Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets, the original cost of such assets shall be removed from the admitted capital cost of the generating station, the claim of the Petitioner under this head is not allowed.

Reversal of liabilities

21. The Petitioner has claimed exclusion of reversal of liabilities of (-) Rs.50.42 lakh in 2014-15, (-) Rs.36.74 lakh in 2015-16 and (-) Rs.14.34 lakh in 2016-17. In justification for the same, the Petitioner has submitted that the tariff is allowed on cash basis and liabilities do not form part of tariff and accordingly the reversal of the same has been kept under exclusion. Since tariff is allowed on cash basis, the exclusion of reversal of un-discharged liabilities is allowed for the purpose of tariff.

22. Based on the above, the summary of exclusions allowed and disallowed, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Items not claimed as additional capitalisation in 2014-19	146.99	191.66	104.05	247.41	0.00
Capitalization of capital spares	3291.15	1476.44	374.33	63.45	76.15
Inter-unit transfer of assets	360.69	984.29	(-) 4.83	(-) 1.23	(-) 30.73
De-capitalisation of spares (not part of capital cost)	(-) 161.64	(-) 787.31	(-) 45.36	(-) 9.03	(-) 35.10
Capitalisation of MBOA	80.84	151.06	64.57	52.93	172.62
De-capitalisation of MBOA (not part of capital cost)	(-) 22.93	(-) 3.63	(-) 30.25	(-) 2.65	(-) 51.75
De-capitalisation of MBOA (part of capital cost)	0.00	0.00	0.00	0.00	0.00
De-capitalisation of plant and machinery (part of capital cost)	0.00	0.00	0.00	0.00	0.00
De-capitalisation of plant and machinery (not part of capital cost)	0.00	(-) 0.17	0.00	0.00	0.00
Software	0.00	6.72	0.00	0.00	0.00
Total Exclusions allowed	3644.67	1982.31	448.18	350.88	131.20
Exclusion disallowed	(-) 26.36	(-) 0.39	(-) 33.75	(-) 1.25	(-) 2.28



Additional Capital Expenditure

23. The Petitioner has claimed actual additional capital expenditure, for the period 2014-19, on cash basis, as under:

		<i>(Rs. in lakh)</i>				
	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19
Replacement of Freon based HVAC system with vapor absorption system	14(3)(ii)	86.31	0.00	0.00	0.00	0.00
Inert Gas Firefighting System for Control room	14(3)(ii)	153.60	0.00	0.00	0.00	0.00
LA compensation	14(3)(i)	452.68	25.64	3.55	2.60	3.99
De-capitalisation of spares (part of capital cost)	14(4)	0.00	0.00	(-) 2.78	(-) 4.00	0.00
Additional capital expenditure claimed (before discharge of liabilities)		692.59	25.64	0.77	(-) 1.40	3.99
Add: Discharge of Liabilities		2.65	24.60	2.91	0.00	0.00
Net Additional capital expenditure claimed (including discharges of liabilities)		695.24	50.25	3.69	(-) 1.40	3.99

24. We now examine the actual additional capital expenditure claimed by the Petitioner, below:

Replacement of Freon based HVAC system with vapor absorption system

25. The Petitioner has claimed additional capital expenditure of Rs.86.31 lakh on cash basis (the corresponding un-discharged liability is Rs.0.04 lakh) in 2014-15, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that this item was allowed by the Commission under change in law vide order dated 27.10.2016 in Petition No. 269/GT/2014. The work has been capitalized during 2014-15 with some minor deviations.

26. The Respondent KSEBL has submitted that the expenditure claimed by the Petitioner is higher than the approved amount allowed vide order dated 27.10.2016. In response, the Petitioner has submitted that the same is beyond the control of the Petitioner and is due to force majeure conditions.



27. The matter has been considered. It is observed that the Petitioner has claimed additional capitalization which was initially allowed on replacement basis in 2011-12 vide Commission's order dated 7.9.2012 in Petition No. 281/2009. Thereafter, the Petitioner, in Petition No. 269/GT/2014, has submitted that the capitalization of above could not be completed during the period 2009-14 and has claimed the same on projection basis in 2014-15. The Commission vide its order dated 27.10.2016 in Petition No. 269/GT/2014 had allowed the expenditure on projection basis. Since the expenditure of Rs. 86.31 lakh claimed is for the admitted asset/item, which is required for compliance with the existing law, the same is allowed. Since the Petitioner has not furnished the decapitalization value of the old asset, we have considered the decapitalization value of the old asset as Rs. 24.54 lakh, as per submission of the Petitioner in Petition No. 281/2009.

Inert Gas Firefighting system for Control room

28. The Petitioner has additional capital expenditure of Rs.153.60 lakh on cash basis (the corresponding un-discharged liability is Rs.12.78 lakh) in 2014-15, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the said work was disallowed vide order dated 27.10.2016 in Petition No. 269/GT/2014. The Petitioner has submitted that it had filed appeal before the Appellate Tribunal for Electricity (APTEL) and APTEL vide its judgment dated 5.8.2019 in Appeal No. 40 of 2017 had allowed the said claim based on similar other orders of the Commission in respect of its other generating station.

29. The Respondent KSEBL has submitted that the claim of the Petitioner for the proposed capital expenditure is not justified and the Petitioner may be directed to meet the expenditure from the O&M expenses allowed for the generating station. In



response, the Petitioner has submitted that the nature of the expenditure is of capital nature and therefore the same cannot be covered under O&M Expenses.

30. The matter has been considered. It has been observed that the Petitioner has claimed additional capitalization based on the decision of APTEL vide its judgment dated 5.8.2019 in Appeal No. 40 of 2017. The relevant portion of the judgment is extracted below:

“We have considered the rival contentions of both the parties in the matter and also perused the findings of the Central Commission in its impugned order regarding disallowance of the expenditure towards installation of inert gas firefighting system. It is admitted fact that prior to notification of the referred CEA Regulations, 2010, the generating stations were provided with CO2 gas based firefighting system and after the notifications, the system was required to be augmented with fire fighting system based on inert gas. The Appellant in pursuance of the Montreal Protocol & CEA Regulations, 2010 went ahead for installation of inert gas firefighting system and incurred an expenditure of Rs.161 lakh. While referring to the order dated 21.02.2017 of the Central Commission in respect of another thermal station namely Talchar Super Thermal Power Station Stage-I (1000 MW) relating to identical issue, we note that the Central Commission has acknowledged that CEA Regulations, 2010 for augmentation of firefighting system constitutes change in law in terms of Regulation 14 (3)(ii) i.e. compliance of any existing laws and accordingly has allowed the claim of NTPC for capitalisation of expenditures towards augmentation of firefighting system. We, therefore, opine that the claim of NTPC regarding augmentation of firefighting system is duly covered by the referred order of CERC. Accordingly, the claim of NTPC - Rs. 161 lakh for installation of inert gas firefighting system would need to be appraised by the Central Commission afresh in accordance with law.”

31. We have considered the matter. The expenditure incurred is on account of the CEA (Technical standards for construction of Electrical plants and Electrical lines) Regulations, 2010 which provides for installing inert gas fire protection systems at unit control rooms, control equipment rooms and false ceiling of the rooms. It is also noticed that the Commission vide its order dated 7.5.2022 in Petition No. 241/ GT/2020 (tariff of Vindhyachal Super Thermal Power Station Stage-II for 2014-19) had approved an expenditure of Rs. 211.44 lakh, on account of Inert Gas Fire Extinguisher system, as under:

“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 decapitalization amount, the assumed deletion considered is Rs.122.93 lakh."

32. In line with the said judgment of APTEL and the decision of the Commission in order dated 7.5.2022 in Petition No. 241/GT/2020, the expenditure claimed by the Petitioner on this count, is allowed. However, 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 actual decapitalization amount, the assumed deletion considered is Rs.80.03 lakh.

Land Acquisition Compensation

33. The Petitioner has claimed additional expenditure of Rs.488.47 lakh towards land acquisition compensation, on cash basis (corresponding liabilities being Rs.62.34 lakh in 2014-15, Rs.3.60 lakh in 2015-16, Rs.9.94 lakh in 2016-17, Rs.6.39 lakh in 2017-18 and Rs.15.49 lakh in 2018-19) under Regulation 14(3)(i) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that Land compensation was disbursed based on the outcome of the court cases and accordingly the disbursement on account of land compensation could not be claimed as projected capital expenditure since only after the actual expenditure was incurred, the amount was claimed. It has also submitted that based on documentary evidence the land compensation along with interest up to the COD of the project, has been capitalized in the books of accounts. The Petitioner has further submitted that similar



claims of land compensation have been allowed by the Commission's order dated 24.6.2015 in Petition No. 242/GT/2013.

34. The Respondent KSEBL has submitted that the Petitioner has claimed additional capital expenditure of Rs.452.68 lakh towards land compensation which is a new claim and the Petitioner has not furnished the details of the compensation made, like payment released, delay in payment after the issue of court orders, interest accrued due to such delay etc. The Respondent has further submitted that the interest accrued due to the delay in releasing payment by the Petitioner after the date of court order may not be passed on to the beneficiaries. It has further submitted that the Petitioner may be directed to furnish the details of the payments released based on various court orders in cost of land and interest payment in respect of pending cases in various courts during the period 2014-19 and in the absence of which, the claim may be disallowed. In response, the Petitioner has stated that in some cases, the compensation has been enhanced and in other cases, appeals and cross appeals, have been either dismissed or allowed. The Petitioner has further stated that the amount finally paid by the Petitioner is audited and reflected in its books. It has also stated that the payments in accordance with the court orders, therefore, needs no further bifurcation of the above into payments released. The Petitioner has clarified that it has not delayed any payments and the delays has been due to pendency of appeals and cross appeals.

35. The matter has been considered. It is noticed that the Petitioner has furnished copies of judgement of the Hon'ble High Court of Kerala, based on which the Petitioner has claimed additional capitalization towards land acquisition compensation. In our view, since the claim of the Petitioner is in compliance to the order of the Hon'ble High Court, the claim is **allowed** under Regulation 14(3)(i) of the 2014 Tariff Regulations.



De-capitalisation of Spares

36. The Petitioner has claimed de-capitalisation of capital spares forming part of the admitted capital cost of Rs.2.78 lakh in 2016-17 and Rs.4.00 lakh in 2017-18, under Regulation 14(4) of the 2014 Tariff Regulation. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalisation of assets the original cost of such asset shall be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalisation claimed under this head is allowed for the purpose of tariff.

Discharge of Liabilities

37. The discharge of liabilities claimed by the Petitioner, is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
2.65	24.60	2.91	0.00	0.00

38. The discharges as claimed above is in order and is accordingly allowed for the purpose of tariff. Further, out of un-discharged liabilities deducted as on 1.4.2009 the petitioner has reversed un-discharged liabilities amounting to Rs.50.29 lakh, the same has been considered for the purpose of tariff.

39. Further, the flow of un-discharged liabilities, during the period 2014-19, corresponding to allowed assets/works is as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
1)	Out of un-discharged liabilities deducted as on 1.4.2009					
A	Opening un-discharged liabilities	50.59	0.30	0.30	0.30	0.30
B	Liabilities corresponding to additional capital expenditure allowed during the year	0.00	0.00	0.00	0.00	0.00
C	Discharges of liabilities during the year	0.00	0.00	0.00	0.00	0.00
D	Reversal of liabilities during the year	50.29	0.00	0.00	0.00	0.00
E	Closing un-discharged liabilities (A+B-C-D)	0.30	0.30	0.30	0.30	0.30
2)	Other Liabilities					
F	Opening un-discharged liabilities	24.41	96.76	43.15	50.18	56.57



G	Liabilities corresponding to ACE allowed during the year	75.13	3.60	9.94	6.39	15.49
H	Discharges of liabilities during the year	2.65	24.60	2.91	0.00	0.00
I	Reversal of liabilities during the year	0.12	32.61	0.00	0.00	0.00
J	Closing un-discharged liabilities (F+G-H-I)	96.76	43.15	50.18	56.57	72.05
K	Net closing un-discharged liabilities (E+J)	97.06	43.45	50.48	56.87	72.35

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Replacement of Freon based HVAC system with vapor absorption system	86.31	0.00	0.00	0.00	0.00
Inert Gas Firefighting System for Control room	153.60	0.00	0.00	0.00	0.00
LA Compensation	452.68	25.64	3.55	2.60	3.99
Decapitalisation of spares (Part of Capital Cost)	0.00	0.00	(-) 2.78	(-) 4.00	0.00
Assumed deletion for Inert Gas Firefighting system	(-) 80.03	0.00	0.00	0.00	0.00
De-capitalization on account of Replacement of Freon based HVAC system with Vapor absorption system	(-)24.54	0.00	0.00	0.00	0.00
Additional capital expenditure allowed (before exclusions disallowed & discharge of liabilities)	588.02	25.64	0.77	(-)1.40	3.99
Add: Exclusions disallowed	(-) 26.36	(-) 0.39	(-) 33.75	(-) 1.25	(-) 2.28
Additional capital expenditure allowed (before discharge of liabilities)	561.66	25.26	(-) 32.98	(-) 2.65	1.71
Add: Discharge of Liabilities	2.65	24.60	2.91	0.00	0.00
Net Additional capital expenditure Allowed (including discharges of liabilities)	564.31	49.86	(-) 30.06	(-) 2.65	1.71

Capital cost allowed for the period 2014-19

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	125041.54	125605.85	125655.71	125625.65	125622.99
Add: Additional capital expenditure	564.31	49.86	(-) 30.06	(-) 2.65	1.71
Closing capital cost	125605.85	125655.71	125625.65	125622.99	125624.70
Average capital cost	125323.69	125630.78	125640.68	125624.32	125623.85



Debt-Equity Ratio

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

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

(4) In case of 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

43. The gross normative loan and equity amounting to Rs. 87946.70 lakh and Rs. 37094.84 lakh, respectively, as on 1.4.2014, as allowed in order dated 27.10.2016 in Petition No. 269/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved above, has been allocated to debt and equity in the ratio of 70:30. Accordingly, the details of debt-equity



ratio in respect of the generating station as on 1.4.2014 and as on 31.3.2019, is as under:

	Capital cost as on 1.4.2014	(%)	Additional capital expenditure	(%)	Total cost as on 31.3.2019	(%)
Debt	87946.70	70.33%	408.21	70%	88354.91	70.33%
Equity	37094.84	29.67%	174.95	30%	37269.79	29.67%
Total	125041.54	100.00%	583.16	100%	125624.70	100.00%

Return on Equity

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

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

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

Provided that:

- i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
- ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
- iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
- iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*
- v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*
- vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometre.”*

45. 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:

$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$

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.”

46. The Petitioner has claimed tariff considering rate of Return on Equity (ROE) 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 ROE of 15.50% with MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.5488% in 2018-19. However, after rectifying the rounding off errors, ROE 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, ROE has been worked out as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	37094.84	37264.13	37279.09	37270.07	37269.28
Add: Addition of Equity due to additional capital expenditure	169.29	14.96	(-) 9.02	(-) 0.80	0.51
Normative Equity – Closing	37264.13	37279.09	37270.07	37269.28	37269.79
Average Normative Equity	37179.49	37271.61	37274.58	37269.67	37269.53
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	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) - (annualised)	7290.90	7344.37	7344.96	7343.99	7363.71



Interest on loan

47. 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 Decapitalisation 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-capitalisation 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 capitalised:

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.”

48. Interest on loan has been computed as under:



- i) The gross normative loan amounting to Rs.87946.70 lakh as considered in order dated 27.10.2016 in Petition No. 269/GT/2014, has been retained as on 1.4.2014.
- ii) Cumulative repayment of Rs.87946.70 lakh, as considered in order dated 27.10.2016 in Petition No. 269/GT/2014, has been retained as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 is '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 period 2014-19. Further, the repayments have been adjusted for de-capitalisation of assets considered for the purpose of tariff. Further also, proportionate adjustment has been made to the repayments corresponding to discharges and reversal of liabilities considered during the respective years on account of cumulative repayment adjusted, corresponding to liabilities deducted, as on 1.4.2009.
- vi) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 9.8076% in 2014-15, 8.8051% in 2015-16 and 6.5710% in 2016-19, the same has been considered.

49. Accordingly, the interest on loan has been worked out as under:

		(Rs. in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Gross opening loan	87946.70	88341.72	88376.62	88355.58	88353.72
B	Cumulative repayment of loan upto previous year	87946.70	88341.72	88376.62	88355.58	88353.72
C	Net Loan Opening (A-B)	0.00	0.00	0.00	0.00	0.00
D	Addition due to additional capital expenditure	395.02	34.90	(-) 21.04	(-) 1.86	1.19
E	Repayment of loan during the year	459.65	35.08	(-) 3.30	0.77	2.37
F	Repayment adjustment on account of de-capitalisation	91.65	0.18	17.74	2.63	1.18
G	Repayment adjustment on account of discharges/reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	27.02	0.00	0.00	0.00	0.00
H	Net Repayment of loan during the year (E-F+G)	395.02	34.90	(-) 21.04	(-) 1.86	1.19
I	Net Loan Closing (C+D-H)	0.00	0.00	0.00	0.00	0.00
J	Average Loan [(C+I)/2]	0.00	0.00	0.00	0.00	0.00
K	WAROI	9.8076%	8.8051%	6.5710%	6.5710%	6.5710%
L	Interest on Loan (J x K)	0.00	0.00	0.00	0.00	0.00

Depreciation

50. 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 licensee, 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-capitalisation 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-capitalised asset during its useful services."



51. The cumulative depreciation amounting to Rs.88946.84 lakh and balance useful life of 10.27 years as on 1.4.2014 as considered in order dated 27.10.2016 in Petition No. 269/GT/2014 has been considered as on 1.4.2014. The value of freehold land amounting to Rs.4207.58 lakh as on 1.4.2014, as considered in order dated 27.10.2016 in Petition No. 269/GT/2014 along with additions during the period 2014-19, has been considered for the purpose of tariff. Since, the elapsed life of the generating station (i.e. 14.73 years) as on 1.4.2014 is more than 12 year from the effective station COD of 8.7.1999 the depreciation has been calculated applying spreading over of the balance depreciable value over the balance useful life. Further, proportionate adjustment has been made to the cumulative depreciation, on account of de-capitalisation of assets and also on account of discharge/reversal of liabilities out of un-discharged liabilities deducted as on 1.4.2009. Accordingly, depreciation has been worked out as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Average capital cost (A)	125323.69	125630.78	125640.68	125624.32	125623.85
Value of freehold land included above (B)	4433.92	4685.26	4712.03	4715.11	4718.40
Aggregated depreciable Value [C = (A-B) x 90%]	108800.80	108850.97	108835.78	108818.29	108814.90
Remaining Aggregate Depreciable value at the beginning of the year (D = C – 'K' of previous year)	19853.96	18038.42	16077.13	14132.91	12187.65
Balance useful life at the beginning of the year (E)	10.27	9.27	8.27	7.27	6.27
Weighted average rate of depreciation (F = G/A)	1.5428%	1.5492%	1.5476%	1.5479%	1.5478%
Depreciation during the year (G = D/E)	1933.55	1946.28	1944.47	1944.50	1944.38
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment (H = G + 'K' of previous year)	90880.39	92758.84	94703.13	96629.89	98571.64
Cumulative depreciation adjustment on account of de-capitalisation (I)	26.75	0.00	0.00	0.00	0.00



	2014-15	2015-16	2016-17	2017-18	2018-19
Cumulative Depreciation adjustment on a/c of un-discharged liabilities deducted as on 1.4.2009 (J)	94.58	0.18	17.74	2.63	1.18
Cumulative depreciation, at the end of the year (K = H – I + J)	90812.55	92758.66	94685.38	96627.25	98570.46

O&M Expenses

52. The Commission vide order dated 27.10.2016 in Petition No. 269/GT/2014 had allowed O&M expenses as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
	<i>(Rs. in lakh)</i>				
O&M expenses allowed under Regulation 29(1)(a)	5275.04	5605.85	5958.24	6332.20	6731.34
Water Charges allowed under Regulation 29(2)	5.00	5.00	5.00	5.00	5.00
Total O&M Expenses	5280.84	5610.85	5963.24	6337.20	6736.34

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

	2014-15	2015-16	2016-17	2017-18	2018-19
	<i>(Rs. in lakh)</i>				
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	5275.04	5605.85	5958.24	6332.20	6731.34
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations:					
- Water Charges	5.00	5.00	0.63	0.97	0.92
- Capital Spares consumed	161.64	787.31	48.14	13.03	35.10
Sub-total O&M Expenses	5441.68	6398.16	6007.01	6346.21	6767.35
Impact of Wage revision	-	38.61	806.07	950.32	1069.77
Impact of GST	-	-	-	67.26	101.05
Total O&M Expenses	5441.68	6436.77	6813.08	7363.79	7938.17

54. As the normative O&M expenses claimed by the Petitioner is in terms with the Regulation 29(1)(a) of the 2014 Tariff Regulations, the claim of the Petitioner is allowed.

Water Charges

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

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



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: “

56. The Petitioner has claimed water charges based on actual water consumption of the generating station. However, the Petitioner has not furnished any details as per Regulation 29(2) of the 2014 Tariff Regulations. Further, the Commission has also gone through the submission of the Petitioner vide Annexure D wherein the Petitioner has claimed the water charges consumed by RGCCP for the period 2016-17, as shown under:

	Remarks
Type of Plant	Naphtha/ Gas
Type of cooling water system	Closed circuit cooling system with induced draft cooling tower
Consumption of water	192255 m ³
Rate of water charges	Rs. 1/KL
Total water charges	Rs. 192255

57. The water charges allowed, on projected basis, by the Commission in order dated 27.10.2016 in Petition No. 269/GT/2014, is as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
5.00	5.00	5.00	5.00	5.00

58. As noticed, in the said order dated 27.10.2016, the Petitioner was allowed water charges at a flat rate of Rs 5 lakh per year for the period 2014-19, irrespective of the variation in water consumption. The Petitioner has submitted that as per the minutes of meeting held with the officials of the various departments of the State of Govt. of Kerala on 6.11.1996 and 30.3.1999, the rate of water charges are Rs. 1.0/ KL and the maximum amount payable by the Petitioner is limited to Rs. 5.00 lakh per annum. The Petitioner has further submitted that the annual allocated water quantity for the generating station is 10.5 Cusec.



59. It is observed that the Petitioner, in the present petition, has claimed water charges of Rs 5 lakh each for the years 2014-15 and 2015-16, and Rs 0.63 lakh, 0.97 lakh and 0.92 lakh for the years 2016-17, 2017-18 and 2018-19, respectively. Accordingly, in terms of the above agreement, the actual water charges incurred during the period 2014-19 as submitted by the Petitioner is in order and the same is allowed for the purpose of tariff, as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
5.00	5.00	0.63	0.97	0.92

Capital Spares

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

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

xxxxx

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

61. 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 period 2014-19 in terms of last proviso to Regulation 29 (2) of 2014 Tariff Regulations, is as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
161.64	787.31	48.14	13.03	35.10

62. The Petitioner has clarified that the claim is to meet the customers demand and maintain high machine availability at all times by the generating station, units/ equipment are taken under overhaul/ maintenance and inspected regularly for wear and tear. It has submitted that during such works, spares parts of equipment's which



became damaged/ unserviceable are replaced/ consumed so that the machine continue to perform at expected efficiency on sustained basis.

63. We have examined the list of capital spares consumed by the Petitioner. 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 period 2014-19, is summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	161.64	787.31	48.14	13.03	35.10
Total capital spares consumed (not part of capital cost)	161.64	787.31	48.14	13.03	35.10
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	14.15	7.87	3.65	1.58	1.50
Net total value of capital spares considered	147.49	779.44	44.49	11.46	33.60

64. 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 period 2014-19, 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 period 2014-19. In view of the above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the period 2014-19. Accordingly, net capital spares allowed is summarized as under:



	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	147.49	779.44	44.49	11.46	33.60
Less: Salvage value @ 10%	14.75	77.94	4.45	1.15	3.36
Net capital spares allowed	132.74	701.50	40.04	10.31	30.24

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

65. The Petitioner has claimed additional O&M expenses of Rs.67.26 lakh in 2017-18 and Rs. 101.05 lakh in 2018-19, on account of payment of Goods and Service Tax (GST). The Respondent KSEBL has submitted that the Petitioner has not submitted the details of the calculation of the amount claimed towards the impact of GST. In response, the Petitioner has submitted that the details of the calculation towards impact of GST, duly certified by the auditor, has been submitted vide additional submissions dated 16.7.2021.

66. The submissions of the parties have been considered. It is observed that the Commission while specifying the O&M expense norms for the period 2014-19, 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...”

67. Further, the escalation rates considered in the normative O&M expenses were finalized only after the consideration of the variations during the last five years, which also, takes care of any variation in taxes also. It may be noted that in case of reduction of taxes or duties, the Petitioner is not required to reimburse any taxes in tariff. As such, additional O&M expenses on account of GST are not admissible separately.



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

68. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the period 2014-19, 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. 38.61 lakh in 2015-16, Rs. 806.07 lakh in 2016-17, Rs. 950.32 lakh in 2017-18 and Rs. 1069.77 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 30.6.2021 has submitted the following:

- (a) Detailed break-up of the actual O&M expenses booked by the Petitioner for the period 2014-19, for the whole generating station;
- (b) Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the period 2014-19;
- (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 period 2014-19.

69. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed total amount of Rs. 2864.77 lakh (Rs. 38.61 lakh in 2015-16, Rs. 806.07 lakh in 2016-17, Rs. 950.32 lakh in 2017-18 and Rs. 1069.77 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.73.92 lakh in 2017-18 and Rs.281.16 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.2509.69 lakh with the following year-wise break up.

	(Rs. in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	0.00	38.61	806.07	876.40	788.61	2509.69

70. 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.”

71. 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.

72. 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 four years i.e. 2015-19, on a combined basis, which is commensurate with the wage revision claim being spread over these four years.

73. The matter has been examined. 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 for the period 2014-19. The impact of wage revision/ pay revision could not be factored by the Commission while framing the O&M expense norms under the 2014-19 Tariff Regulations since the pay/ wage revision came into effect from 1.1.2016 (CISF & KV employees) and 1.1.2017 (employees of the Petitioner)



respectively. As such, in terms of SOR to the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

- (a) Comparison of the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fee, ex-gratia, loss of provisions, prior period expenses, community development store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/details) which were not considered while framing the O&M expense norms for the period 2014-19, 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.

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

<i>(Rs. in lakh)</i>		
Year	Actual O&M expenses for the generating station, excluding water charges & capital spares	Wage revision impact claimed for the generating station
2014-15	7745.47	0.00
2015-16	8740.01	38.61
2016-17	8337.05	806.07
2017-18	8217.34	950.32
2018-19	8745.28	1069.77
Total		2864.77

75. As a first step, the expenditure against sub-heads of O&M expenses as indicated above, have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalized) for the generating station. 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 for the period 2015-19 is as follows:

	(Rs. in lakh)				
	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (Audited) for the generating station– (a)	8740.01	8337.05	8217.34	8745.28	34039.68
Actual O&M expenses (normalized) for the generating station– (b)	7728.47	7392.91	7012.24	7281.97	29415.59
Normative O&M expenses as per Regulation 29(1) of the 2014 Tariff Regulations – (c)	5605.85	5958.24	6332.20	6731.34	24627.63
Under/(Excess) recovery for the generating station (d)=(b)-(c)	2122.62	1434.67	680.04	550.63	4787.96
Wage revision impact claimed (excluding PRP/ex-gratia)	38.61	806.07	876.40	788.61	2509.69

76. It is observed that the actual normalized O&M expenses, which also includes wage revision impact of Rs. 2509.69 lakh excluding ex-gratia and PRP, is more than the normative O&M expenses allowed during the period 2014-19. Considering the fact that the normative O&M expenses allowed to the generating station in terms of the 2014 Tariff Regulations for the period 2014-19, is lesser than the actual normalized O&M expenses and under recovery claimed is to the tune of Rs 4787.96 lakh, the impact of the wage revision amounting to Rs. 2509.69 lakh excluding ex-gratia and PRP, as claimed by the Petitioner, is allowed.

77. Accordingly, in exercise of the Power under Regulation 54 of the 2014 Tariff Regulations, Power to relax, we allow the reimbursement of the impact of wage revision amounting to Rs. 2509.69 lakh, as additional O&M expenses, for the period 2015-19. The arrear payments on account of the wage revision impact is payable by the beneficiaries in twelve equal monthly instalments, starting from the next bill, after issue of this order. Keeping in view the consumer interest, we as a special case, direct that no interest shall be charged by the Petitioner on the arrear payments on the wage revision impact allowed in this order. This arrangement, in our view, will balance the



interest of both the Petitioner and the Respondents. Also, considering the fact that the impact of wage revision is being allowed in exercise of the power to relax, the expenses allowed are not made part of the O&M expenses and the consequent annual fixed charges determined in this order.

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

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations (a)	5275.04	5605.85	5958.24	6332.2	6731.34
Normative O&M expenses allowed under Regulation 29(1)(a) of the 2014 Tariff Regulations (b)	5275.04	5605.85	5958.24	6332.2	6731.34
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations (c)	5.00	5.00	0.63	0.97	0.92
Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)	5.00	5.00	0.63	0.97	0.92
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations (e)	161.64	787.31	48.14	13.03	35.10
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)	132.74	701.50	40.04	10.31	30.24
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	5441.68	6398.16	6007.01	6346.21	6767.35
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)	5412.78	6311.06	6000.20	6343.49	6762.51
Impact of Wage revision claimed	0.00	38.61	806.07	950.32	1069.77
Impact of Wage revision allowed	0.00	38.61	806.07	876.40	788.61
Impact of GST claimed	0.00	0.00	0.00	67.26	101.05
Impact of GST allowed	0.00	0.00	0.00	0.00	0.00

Operational Norms

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



(a) Normative Annual Plant Availability Factor (NAPAF)

80. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the NAPAF of 85% for the period 2014-19 is considered.

(b) Gross Station Heat Rate (kCal/kWh)

81. In terms of Regulation 36(C)(a)(iv) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2000 kCal/kWh as allowed in order dated 27.10.2016 in Petition No. 269/GT/2014, is considered for the purpose of revision of tariff.

(c) Auxiliary Power Consumption

82. In terms of the Regulation 36(E)(c) of the 2014 Tariff Regulations, the auxiliary power consumption of 2.50% as allowed in order dated 27.10.2016 in Petition No. 269/GT/2014, is considered.

Interest on Working Capital

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

“28. Interest on Working Capital:

(1) The working capital shall cover

(b) Open-cycle Gas Turbine/Combined Cycle thermal generating stations:

(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;

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

(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel; and

(v) Operation and maintenance expenses for one month.”



Fuel Cost component in Working Capital

84. Regulation 28(1)(b) regarding fuel cost for gas based generating stations provides as under:

“(i) Fuel cost for 30 days corresponding to the normative annual plant factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for 15 days corresponding to the normative annual plant factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;”

85. The Petitioner has claimed fuel (Naphtha) cost for one (1) month corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on Naphtha fuel as 100% as under:

2014-15	2015-16	2016-17	2017-18	2018-19
27447.25	27447.25	27447.25	27447.25	27447.25

86. In terms of Regulation 28(1)(b) of the 2014 Tariff Regulations, the fuel cost for 30 days corresponding to the normative annual plant factor is to be considered. Accordingly, the fuel cost for 30 days as worked out based on the above norms is allowed as under:

2014-15	2015-16	2016-17	2017-18	2018-19
27447.11	27447.11	27447.11	27447.11	27447.11

87. Based on the above discussion, the cost for fuel component in working capital is allowed as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Fuel cost – 30 days, corresponding to NAPAF	27447.11	27447.11	27447.11	27447.11	27447.11
Liquid fuel stock - 15 days corresponding to NAPAF	13723.55	13723.55	13723.55	13723.55	13723.55



Energy Charge Rate (ECR) for calculating working capital

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

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

(a) For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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

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

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

LC = Normative limestone consumption in kg per kWh.

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

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

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

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

89. The Petitioner has claimed ECR of 1279.226 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 GCV of 11376.90 kCal/kg is worked out as under:

	Unit	2014-19
Capacity	MW	359.58
Gross Station Heat Rate	kCal/kWh	2000
Aux. Energy Consumption	%	2.50%
Weighted average GCV of Naptha	Kcal/kg	11376.90
Weighted average price of Naptha	Rs./MT	70948.56
Rate of Energy Charge ex-bus	Rs./kWh	12.792

90. Energy Charges corresponding NAPAF of 85%, for two months for computation of working capital based on ECR of Rs.12.792/kWh, has been worked out as under:



<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
55655.79	55808.27	55655.79	55655.79	55655.79

Maintenance Spares for working capital

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1632.50	1931.03	2043.92	2209.14	2381.45

92. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 30% of the O&M expenses as specified in the Regulation 29 of the 2014 Tariff Regulations. Accordingly, maintenance spares @ 30% of the O&M expenses (including the water charges and capital spares) allowed, is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1623.83	1893.32	1800.06	1903.05	2028.75

Receivables for working capital

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

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months (A), corresponding to NAPAF	55655.79	55808.27	55655.79	55655.79	55655.79
Fixed Charges - for two months (B) corresponding to NAPAF	4772.19	4948.08	4888.61	4950.01	5028.50
Total (C = A+B)	60427.99	60756.35	60544.40	60605.81	60684.29

Working Capital for O&M Expenses (1 month)

94. 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
453.47	536.40	567.76	613.65	661.51

95. 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 part of working capital.

96. 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
451.07	525.92	500.02	528.62	563.54

Rate of interest on working capital

97. 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 Fuel Cost (30 days generation corresponding to NAPAF) (A)	27447.11	27447.11	27447.11	27447.11	27447.11
Working capital for Liquid Fuel Stock (15 days generation corresponding to NAPAF) (B)	13723.55	13723.55	13723.55	13723.55	13723.55
Working capital for Maintenance Spares (30% of O&M expenses) (D)	1623.83	1893.32	1800.06	1903.05	2028.75
Working capital for Receivables (2 months of sale of electricity at NAPAF) (E)	60427.99	60756.35	60544.40	60605.81	60684.29
Working capital for O&M expenses (1 month of O&M expenses) (F)	451.07	525.92	500.02	528.62	563.54
Total Working Capital (G = A+B+C+D+E+F)	103673.54	104346.25	104015.14	104208.14	104447.24
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital (I = G x H)	13995.93	14086.74	14042.04	14068.10	14100.38



Annual Fixed Charges for the period 2014-19

98. Based on the above, the annual fixed charges approved for the generating station, is summarised as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1933.55	1946.28	1944.47	1944.50	1944.38
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7290.90	7344.37	7344.96	7343.99	7363.71
Interest on Working Capital	13995.93	14086.74	14042.04	14068.10	14100.38
O&M Expenses	5412.78	6311.06	6000.20	6343.49	6762.51
Total	28633.16	29688.46	29331.67	29700.08	30170.98

Note: All figures are on annualized basis. 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.

99. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 27.10.2016 in Petition No. 269/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 of the 2014 Tariff Regulations.

100. Petition No. 234/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member