

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 361/GT/2020

Coram:

**Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V, Member
Shri Harish Dudani, Member**

Date of Order: 27th March, 2025

In the matter of:

Petition for revision of tariff of Pragati-III CCPS (1371.2 MW) power plant for the period 2014-19, after the truing up exercise.

And

In the matter of:

Pragati Power Corporation Limited
Pragati -III 1371 MW Power Plant
Himadri, Rajghat Powerhouse Complex
New Delhi-110002

... Petitioner

Vs

1. BSES Yamuna Power Limited,
Regd. Office: Shakti Kiran Building
Karkardooma, Delhi-110092
2. New Delhi Municipal Council
Regd. Office: Palika Kendra,
Sansad Marg, New Delhi-110001
3. Tata Power Delhi Distribution Limited,
Regd. Office: Grid Sub Station Building
Hudson Lines, Kingsway Camp
Delhi-110009
4. BSES Rajdhani Power Limited,
Regd. Office: BSES Bhawan,
Nehru Place, New Delhi-110019
5. Punjab State Power Corporation Limited,
Regd. Office: The Mall,
Patiala, Punjab-147001.
6. Haryana Power Purchase Centre
Regd. Office: Shakti Bhawan, Sector-6,
Panchkula, Haryana-1341009



7. Garison Engineer
Military Engineering services,
Gopi Nath Market, Kotwali Road
Delhi Cant.-110010

... Respondents

Parties Present:

Ms. Nikita Choukse, Advocate, PPCL
Shri Buddy A. Ranganathan, Advocate, BRPL, BYPL & TPDDL
Shri Rahul Kinra, Advocate BRPL & BYPL
Shri Aditya Ajay, Advocate BRPL & BYPL
Shri Anand Shrivastava, Advocate, TPDDL
Ms. Ishita Jain, Advocate, TPDDL
Ms. Priya Goyal, Advocate, TPDDL
Ms. Shefali Tripathi, Advocate, TPDDL
Ms. Suparna Srivastava, Advocate, PSPCL
Ms. Arshiya Sharma, Advocate, PSPCL
Shri Shaswat Dubey, Advocate, PSPCL

ORDER

This Petition has been filed by the Petitioner, Pragati Power Corporation Limited (PPCL), for trueing up of tariff of Pragati-III CCPS 1371.2 MW power plant (in short “the project / generating station”) for the period 2014-19 in terms of the provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short “the 2014 Tariff Regulations”). The Petitioner is an undertaking of the Government of Delhi, incorporated under the Companies Act, 1956, and is carrying out the business of power generation in the National Capital. It is a generating company as defined under Section 2 (28) of the Electricity Act, 2003. The generating station was commissioned in stages and was declared under commercial operation (COD) on 27.3.2014. The capacity configuration of the different blocks of the generating station, along with their COD, is as under:

Block	Unit	Capacity	COD
Block I	GT I	216 MW	27.12.2011
	GT II	216 MW	16.7.2012
	GT I with HRSG I (ST I)		1.4.2012
	GT I & II with HRSG I & II (ST I)	253.6 MW	14.12.2012
	Total	685.60 MW	



Block II	GT III	216 MW	28.10.2013
	GT IV	216 MW	27.2.2014
	ST II	253.6 MW	27.3.2014
	Total	685.60 MW	
	Grand Total	1371.20 MW	

2. The Commission, vide its order dated 26.5.2015 in Petition No. 257/2010, determined the annual fixed charges of the generating station for the period 2009-14. Aggrieved by the said order, the Petitioner filed Appeal No. 175/2015 before the Appellate Tribunal for Electricity (APTEL) on certain issues, and the same was rejected by APTEL vide its judgment dated 12.7.2018. During the pendency of the said appeal, the Petitioner filed Petition No. 309/GT/2015 for revision of the tariff of the generating station for 2011-14 after the truing-up exercise, and the same was disposed of vide the order dated 19.11.2019. Aggrieved by the said order, the Petitioner filed Review Petition (Petition No. 3/RP/2020) on various issues, and the Commission, vide its order dated 23.10.2021, revised the tariff of the generating station for the period from 27.4.2011 to 31.3.2014, after correction of certain arithmetical/clerical errors, as under:

	2011-12		2012-13		2013-14			
	27.12.11 (COD of GT I) to 31.3.12	1.4.12 (COD of STG I & HRSG I) to 15.7.12	16.7.12 (COD of GT II) to 13.12.12	14.12.12 (Block-I) to 31.3.13	1.4.13 to 27.10.13	28.10.13 (COD of GT III) to 26.2.14	27.2.14 (COD of GT IV) to 26.3.14	27.3.14 (COD of STG-II / Project) to 31.3.14
Opening capital cost as on COD / 1 st April excluding IDC	96552.71	147284.98	204252.48	219678.56	219052.85	266925.09	309677.62	378266.04
Less: Exchange variation disallowed	283.47	431.61	598.85	644.14	0.00	782.80	908.31	1109.68
Add: Cumulative IDC	403.9	662.16	989.97	1114.16	1114.16	1578.3	1983.75	2709.40
Less: Un-discharged liabilities (cumulative)	6584.01	7684.54	9123.26	9183.81	9183.81	9771.42	10289.57	10396.42
Add: Normative IDC allowed	4021.88	4021.88	4021.88	4021.88	4021.88	4021.88	4021.88	4021.88
Opening capital cost including IDC and excluding undischarged liabilities	94111.01	143852.87	199542.22	214986.65	215005.08	261971.05	304485.37	373491.22



	2011-12		2012-13		2013-14			
	27.12.11 (COD of GT I) to 31.3.12	1.4.12 (COD of STG I & HRSG I) to 15.7.12	16.7.12 (COD of GT II) to 13.12.12	14.12.12 (Block-I) to 31.3.13	1.4.13 to 27.10.13	28.10.13 (COD of GT III) to 26.2.14	27.2.14 (COD of GT IV) to 26.3.14	27.3.14 (COD of STG-II / Project) to 31.3.14
Additional capitalization allowed	3030.33	0.00	0.00	215.7	0.00	0.00	0.00	10102.65
Add: Discharge of liability	0.00	0.00	0.00	1830.4	0.00	0.00	0.00	869.46
Add: Additional expenditure missed in Petition No. 257/2010, now added in the claim	272.97	0.00	0.00	18.43	0.00	0.00	0.00	99.60
Closing capital cost	97414.31	143852.87	199542.22	217051.18	215005.08	261971.05	304485.37	384562.93

3. During the pendency of the Review Petition, the Commission, vide its order dated 26.11.2019 in Petition No. 221/GT/2015, 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 Gross Block	380249.65	402909.06	415891.48	429227.84	429227.84
Addition due to Projected Additional Capitalization	22659.41	12982.42	13336.36	0.00	0.00
Closing Gross Block	402909.06	415891.48	429227.84	429227.84	429227.84

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	23036.61	24085.02	24859.18	25251.47	25251.47
Interest on Loan	27653.17	26636.36	25268.26	23324.85	20830.71
Depreciation	19903.07	20808.87	21477.73	21816.66	21816.66
Interest on Working Capital	14580.44	14809.19	14993.28	15179.94	15352.71
O&M Expenses	36750.38	39232.25	41878.67	44703.34	47733.69
Sub-Total	121923.68	125571.68	128477.13	130276.26	130985.24

Present Petition

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

“8. Truing up

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

Provided that the generating company or the transmission licensee 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 Regulation, the Petitioner has filed a Petition for the truing up of generation tariff for the period 2014-19 and has claimed the capital cost and annual fixed charges as under:

Capital Cost

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	380249.65	410785.92	417412.12	424079.66	435920.17
Add: Addition during the year/ period	28788.62	2651.33	4495.22	8663.12	4864.38
Add: Discharges during the year/ period	1747.65	3974.87	2172.31	3177.39	15050.91
Closing Capital Cost	410785.92	417412.12	424079.66	435920.17	455835.47

Annual Fixed Charges

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	23268.84	24480.04	24872.97	25420.04	26428.30
Interest on Loan	28217.10	26974.18	24577.01	22722.61	20925.78
Depreciation	20092.30	21036.23	21373.89	21844.00	22650.59
Interest on Working Capital	14649.21	14881.60	15015.27	16244.97	15561.80
O&M Expenses	36750.38	39165.12	41798.22	58240.94	49241.47
Total	122977.83	126537.16	127637.36	144472.57	134807.93

6. The Petition was heard on 31.3.2022, and the Commission directed the Petitioner to file certain additional information and directed the parties to complete their pleadings in the matter. In compliance with the said direction, the Petitioner filed the additional information, vide affidavit dated 30.5.2022, after serving a copy to the Respondents. Thereafter, the matter was listed (along with Petition No. 376/GT/2020- approval of tariff of generating station for 2019-24) on 6.1.2023 and the Commission sought certain additional information in the matter and the same was submitted by the Petitioner vide affidavit dated 28.2.2023, after serving a copy to the Respondents. Thereafter, the matter was heard on 16.3.2023, 14.7.2023, 8.11.2023, 27.2.2024, 27.6.2024, and 13.8.2024, and the Commission, after hearing the parties, directed the Petitioner to furnish certain additional information in the matter. In compliance with these directions, the Petitioner has filed the additional information vide affidavits dated 19.4.2023, 9.10.2023, 29.1.2024, 12.7.2024, and 21.10.2024 after



serving a copy to the Respondents. The Petitioner, vide its affidavit dated 30.01.2025, submitted the revised Form 9A justifying the additional capitalization claimed in the true-up Petition. The reply has been filed by the Respondents TPDDL (affidavits dated 22.12.2021, 12.5.2023, 25.10.2023, 4.4.2024, 26.7.2024, 16.11.2024), PSPCL (affidavit dated 4.1.2023), BRPL, and BYPL (affidavit dated 14.2.2023). Rejoinders to the replies have been filed by the Petitioner vide affidavits dated 29.3.2022, 25.5.2023, 2.8.2024, 2.8.2024, 2.8.2024, 22.11.2024 (TPDDL), 14.3.2023 (PSPCL), and 14.3.2023 (BRPL & BYPL). Taking into consideration the submissions of the parties and the documents available on record, we proceed to examine the claims of the Petitioner, on prudence check, as stated in the subsequent paragraphs.

Capital Cost

7. Clause (1) of Regulation 9 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. Clause (3) of Regulation 9 of the 2014 Tariff Regulations provides as under:

“9. Capital Cost:

(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15.”

8. As stated, the Commission, vide its order dated 19.11.2019 in Petition No. 309/GT/2015, had allowed the closing capital cost of Rs. 380249.65 lakh as on 31.3.2014. However, the same was revised vide the Commission's order dated 23.10.2021 in Petition No. 3/RP/2020 as Rs. 384562.93 lakh. The capital cost of Rs. 384562.93 lakh as on 31.3.2014, approved vide order dated 23.10.2021, is considered as the opening capital cost, as on 1.4.2014, in accordance with Regulation 9(3) of the 2014 Tariff Regulations. The



Commission in its order dated 26.5.2015 in Petition No. 257/2010, allowed the opening spares of Rs. 8758.74 lakh, as on 31.3.2014.

Additional Capital Expenditure

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

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

- (i) Undischarged liabilities recognized to be payable at a future date;*
- (ii) Works deferred for execution;*
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;*
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and*

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

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

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

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

(ii) Change in law or compliance of any existing law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and

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

(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

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

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

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

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

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal/lignite based stations or transmission



system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

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

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to 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.

(4) In case of de-capitalization 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 decapitalization 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.”

10. The details of the projected additional capital expenditure allowed vide order dated 26.11.2019 in Petition No. 221/GT/2015, in terms of the provisions of Regulation 14(1) of the 2014 Tariff Regulations, are summarized below:

<i>(Rs. in lakh)</i>					
Sl. No.		Regulation	2014-15	2015-16	2016-17
1.	Addition in gross block amount during the period (Bought out items)	14 (ii)	10490.40	0.00	0.00



Sl. No.		Regulation	2014-15	2015-16	2016-17
2.	Un-executed works		0.00	4515.50	4515.50
3.	Addition in gross block amount during the period (transferred from CWIP)	14 (i)	14712.00	3698.75	3698.75
4.	Additional capitalization for additional facility		0.00	522.26	876.20
5.	Total Additional Capitalization		25202.40	8736.51	9090.45
6.	Discharge of Liabilities	14 (i)	0.00	4245.90	4245.90
7.	Total (5+6)		25202.40	12982.42	13336.36
8.	Un-discharged liability included in above		2542.99	0.00	0.00
9.	Additional capital expenditure allowed (on a cash basis)		22658.41	12982.42	13336.36

11. The Commission, in its order dated 26.11.2019 in Petition No. 221/GT/2015, approved the additional capital expenditure for 2014-17 (till the cut-off date) as the projected additional capital expenditure claimed during the period 2014-17 are within the original scope of work of the project and is within the cut-off date of the generating station. The Petitioner has submitted the actual additional capitalization for the period 2014-19 as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	380249.65	410785.92	417412.12	424079.66	435920.17
Add: Addition during the year	28788.62	2651.33	4495.22	8663.12	4864.38
Add: Discharges during the year	1747.65	3974.87	2172.31	3177.39	15050.91
Closing Capital Cost	410785.92	417412.12	424079.66	435920.17	455835.47
Average Capital Cost	395517.79	414099.02	420745.89	429999.92	445877.82

12. The Respondent PSPCL, vide affidavit dated 4.1.2023, submitted that the submissions made by the Petitioner do not indicate the specific regulation under which additional capitalization falls, and therefore, the claims of the Petitioner are liable to prudence check by the Commission. The Respondent BRPL & BRPL vide affidavit dated 14.2.2023 submitted that the Petitioner is seeking a blanket approval of capitalization due to discharge of liability under Regulation 14 of the 2014 Tariff Regulations.

13. It is observed that the total additional capitalization allowed by the Commission vide order dated 26.11.2019 on a cash basis is Rs. 22658.41 lakh for 2014-15, Rs. 12982.42 lakh for 2015-16, and Rs.13336.36 lakh for 2016-17, amounting to a total of Rs. 48977.19 lakh. However, the total actual additional capitalization claimed by the Petitioner for the



period 2014-19 is Rs. 75585.80 lakh. The expenditure on works claimed are for Rs. 30536.27 lakh for 2014-15, Rs. 6626.20 lakh for 2015-16 and Rs. 6667.53 lakh for 2016-17, Rs. 11840.51 lakh for 2017-18 and Rs. 19915.29 lakh for 2018-19 which reflects a significant increase in the values claimed vis-à-vis those approved by the Commission.

14. The Commission, vide ROP of the hearings dated 31.3.2022 and 6.1.2023, directed the Petitioner to submit the item-wise details of the additional capitalization indicating the relevant regulations under which the same has been claimed. In response, the Petitioner v filed its additional submissions on 30.5.2022 and 28.2.2023 along with the detailed break-up of addition in Assets due to Bought out items of the stations, Bought out items of HQ share, Transfer from Works in Progress, Discharge of Liabilities and any retirements/ deletions along with the Regulations under which such additions have been claimed. However, the Petitioner, vide the affidavit dated 30.1.2025, revised the additional capitalization claims for the period as under:

<i>(Rs. in lakh)</i>					
Sl. No.	Head of work / equipment	Additional capital expenditure claimed (actual)			Regulation
		Accrual basis	UDL incl. in Col.3	Cash basis	
1	2	3	4	5 = 3-4	6
A. For 2014-15					
1	Addition in Gross Block amount during the period (Bought out items of station)	10490.40		10490.40	14 (1) (ii)
2	Addition in Gross Block amount during the period (Bought out items of HQ share)	8.75		8.75	14 (1) (ii)
3	Addition in Gross Block amount during the period (Transferred from CWIP)	18289.80	2542.99	15746.81	14 (1) (ii)
4	Liability paid during the year	1747.65		1747.65	14 (1) (i)
5	Grand Total 2014-15	30536.60	2542.99	27993.61	
B. For 2015-16					
1	Addition in Gross Block amount during the period (Bought out items of station)	18.16		18.16	14 (1) (ii)
2	Addition in Gross Block amount during the period (HQ share)	0.00		0.00	14 (1) (ii)
3	Addition in Gross Block amount during the period (Transferred from CWIP)	2633.16	1581.44	1051.72	14 (1) (ii)



Sl. No.	Head of work / equipment	Additional capital expenditure claimed (actual)			Regulation
		Accrual basis	UDL incl. in Col.3	Cash basis	
4	Liability paid during the year	2686.23		2686.23	14 (1) (i)
5	Grand Total 2015-16	5337.56	1581.44	3756.12	
C. For 2016-17					
1	Addition in Gross Block amount during the period (Bought out items of station)	1933.86		1933.86	14 (1) (ii)
2	Addition in Gross Block amount during the period (HQ share)	2.13		2.13	14 (1) (ii)
3	Addition in Gross Block amount during the period (Transferred from CWIP)	2301.77	1022.37	1279.39	14 (1) (ii)
4	Additions in Gross Block amount during period (Restoration of GT#1)	3398.68		3398.68	29 (2)
5	Liability paid during the year	1920.09		1920.09	14 (1) (i)
6	Grand Total 2016-17	9556.52	1022.37	8534.15	
D. For 2017-18					
1	Addition in Gross Block amount during the period (Bought out items of station)	138.05		138.05	14 (3) (vi)
2	Addition in Gross Block amount during the period (HQ Share)	45.20		45.20	14 (3) (vi)
3	Addition in Gross Block amount during the period (Transferred from CWIP)	6955.59	3326.71	3628.89	14 (3) (vi)
4	Additions in Gross Block amount during period (Replacement of critical component and Upgradation in GT#2)	4532.36		4532.36	14(3)(vii)
5	Liability paid during the year	2957.93		2957.93	14 (3) (v)
6	Grand Total 2017-18	14629.13	3326.71	11302.42	
E. For 2018-19					
1	Addition in Gross Block amount during the period (Bought out items of station)	64.92		64.92	14 (3) (vi)
2	Addition in Gross Block amount during the period (HQ Share)	4.96		4.96	14 (3) (vi)
3	Addition in Gross Block amount during the period (Transferred from CWIP)	2118.22	1683.17	435.05	14 (3) (vi)
4	Additions in Gross Block amount during period (Upgradation in GT#3 &4 and installation historian system in Gas Turbines)	2676.27		2676.27	14(3)(vii)
5	Liability paid during the year	2178.83		2178.83	14 (3) (v)
6	Grand Total 2018-19	7043.21	1683.17	5360.04	



15. The cut-off date of the generating station in terms of the 2009 Tariff Regulations is 31.3.2017. Accordingly, the Petitioner's claim for additional capitalization has been grouped under the following heads and considered as under:

a) **Bought Out Items of Station:**

i. The Petitioner has claimed the additional capitalization for an amount of Rs. 12442.42 lakh from 2014-15 to 2016-17, i.e., prior to the cut-off date, for items such as EDP, WP machines, Furniture and fixtures, Laboratory and workshop equipment, and Projector. AC, Heater, Software, Communication equipment, etc., (details are in the table under paragraph no. 16) under Regulation 14 (1) (ii) of the 2014 Tariff Regulations, stating that these works form part of the original scope and is claimed up to the cut-off date. Considering the fact that the claim is for assets/works that are part of the original scope and claimed within the cut-off date, the same is allowed. The Petitioner has also claimed the additional capitalization for an amount of Rs. 202.97 lakh under this head for such items, after the cut-off date i.e., during the period 2017-19, under Regulation 14 (3) (vi) of the 2014 Tariff Regulations, stating that these are about liabilities for works admitted by the Commission, after the cut-off date. It is, however, noticed that the Petitioner has not furnished proper justification in respect of the works to be performed beyond the cut-off date, and on verification, it is not established that the items against which the liability of works was admitted by the Commission in previous orders. Hence, the Commission has not considered such claims for additional capitalization under this head after the cut-off date. It is further observed that the additional capitalization for an amount of Rs. 12384.16 lakh claimed under this head includes initial spares, which is dealt with as under:

ii. Initial Spares:

(a) Regulation 8 of the 2009 Tariff Regulations provides as under:

"Initial spares shall be capitalized as a percentage of the original project cost, subject to following ceiling norms:

(a)

(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%

.....

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such norms shall apply to the exclusion of the norms specified herein.



As per the Regulation 3 (29) the 'original project cost' means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date as admitted by the Commission;”

- (b) The Petitioner has claimed initial spares as part of the additional capitalization for the period 2014-15 to 2016-17 as under:

(Rs. in lakh)	
Year	Claimed as a part of Additional Capitalization
2014-15	10,459.89
2015-16	-
2016-17	1,924.28
2017-18	-
2018-19	-
Total	12,384.16

- (c) The Petitioner has submitted the item-wise detail of spares consumed for the respective years. The opening spares of Rs. 8758.74 lakh as on 31.3.2014 as allowed in the order dated 26.5.2015 in Petition No. 257/2010 have been considered as on 1.4.2014. As per the above regulation, the limit of initial spares, as on the cut-off date, works out to Rs. 16679.25 lakh. Since the claim of the Petitioner exceeds the above limit, the initial spares have been restricted to the above amount. As such, the balance available limit of initial spares allowed for capitalization is Rs. 7920.51 lakh (Rs. 16679.25 lakh - 8758.74 lakh).

b) Bought Out Items of HQ Share:

- i. The Petitioner has claimed the additional capitalization for an amount of Rs. 10.88 lakh before the cut-off date for items such as EDP, WP machines, etc., (details are in the table under paragraph no. 16) under Regulation 14 (1) (ii) of the 2014 Tariff Regulations stating that these assets/works are part of the original scope from 2014-15 to 2016-17. Considering the fact that the claim is for assets/works that are part of the original scope and claimed within the cut-off date, the same is allowed. The Petitioner has also claimed the additional capitalization for an amount of Rs. 50.16 lakh under this head after the cut-off date from 2017-18 to 2018-19 for such items under Regulation 14 (3) (vi) of the 2014 Tariff Regulations, for liabilities for works admitted by the Commission after the cut-off date. It is, however, noticed that the Petitioner has not furnished proper justification for the assets/works claimed after the



cut-off date, and on verification, it is not established that the items against which the liability of works was admitted by the Commission in previous orders. Hence, the Commission has not considered such additional capitalization after the cut-off date.

c) **Capitalization from CWIP:**

i. The Petitioner has claimed the additional capitalization for an amount of Rs. 18077.92 lakh before the cut-off date for items such as Batteries - cable duct systems, Main Plant Buildings, cooling towers and circulating water systems, Air Conditioners, etc., (details are in the table under paragraph no. 16) from 2014-15 to 2016-17 under Regulation 14 (1) (ii) of the 2014 Tariff Regulations stating that the works form part of the original scope. Since the additional capital expenditures form part of the original scope and are claimed within the cut-off date, the same is allowed. The Petitioner has also claimed the additional capitalization for an amount of Rs. 243.13 lakh under this head after the cut-off date i.e., from 2017-18 to 2018-19 under Regulation 14 (3) (vi) of the 2014 Tariff Regulations for 'liabilities for works admitted by the Commission after the cut-off date'. It is noticed that these expenditures form part of the original scope and fall within the limit of the estimated project cost as per the investment approval of the project. As the works form part of the original scope and are necessary for the project's operation, we allow the additional capital expenditure claimed.

d) **Capital expenditure incurred beyond original scope:**

GT-I

i. In addition to the above claims, the Petitioner has claimed additional capital expenditure for works/assets beyond the original scope for 2016-17 to 2018-19 as 'Addition in GFA due to Upgradation.' The Petitioner has submitted that on 16.7.2015, GT Unit 1, operating at a load of 186 MW, tripped unexpectedly due to a "Loss of Compressor Discharge Pressure Bias." An investigation revealed a catastrophic failure in the compressor section of the Gas Turbine and key components, including the rotor vanes, stator vanes, and inlet guide vanes (IGVs) of the compressor, sustained severe damage. The OEM (GE) was consulted to assess the damage and propose a solution. After detailed discussions, GE provided a three-part plan to restore the turbine to operational condition, which involved repair of the compressor and turbine rotors by BGGTS, procurement of spares and consumables through GE under LTSA, and assembly and commissioning services handled by GE. The



restoration of GT Unit 1 was completed in December 2016. During this process, an advanced Blade Health Monitoring (BHM) system was installed as part of an upgrade. The BHM system provides continuous real-time monitoring of the health of the compressor blades, enabling early detection of potential damage, such as cracks or excessive wear. This upgrade significantly enhances the turbine's reliability and facilitates preventive maintenance, reducing the risk of catastrophic failures. The financial impact of the revival and upgrade was substantial. The replacement of critical components of the Compressor rotor, including vanes, IGVs, IGV actuator, EGVs, and the BHM system upgrade, were capitalized for Rs. 33.98 crore. This was offset by the de-capitalization of older components, amounting to Rs. 31.38 crore. The successful completion of this project not only restored the turbine to its original operational capacity but also enhanced its safety, reliability, and long-term performance through advanced monitoring and maintenance capabilities.

GT-2 :

ii. The Petitioner has also claimed expenditure under Regulation 14 (3) (vii) of the 2014 Tariff Regulations, and has submitted that in response to the major failure of GT-1 and the project on 16.7.2015, a decision was made to upgrade the remaining Gas Turbines to ensure improved operational safety and reliability. As part of this initiative, GT-2 underwent an overhaul during 2017-18, which included the replacement of critical parts, including Compressor stators vanes (SO-S5, S6-S8 & S14-S16), Compressor rotating vanes, IGVs, IGV actuators, etc., and upgrades such as Blade Health Monitoring (BHM) systems. The BHM system enhances reliability by continuously tracking the condition of compressor blades, identifying early signs of wear or damage, and facilitating timely interventions to prevent catastrophic failures.

The financial impact of replacing these critical components and upgrades amounting to Rs. 32.69 crore plus service cost (amounting to Rs. 45.32 crore) was capitalized. This expenditure was offset by the de-capitalization of older components valued at Rs. 30.08 crore. The planned outage and upgrades for GT-2 successfully improved the turbine's reliability and operational safety, reducing the likelihood of future catastrophic failures while ensuring better asset management and operational efficiency.



Installation of Combustion Dynamics Monitoring (CDM) and Blade Health Monitoring (BHM) systems:

- iii. In respect of the claim for the above work under Regulation 14 (3) (vii) of the 2014 Tariff Regulations in 2018-19, the Petitioner has submitted that as a part of the up-gradation initiative of Gas Turbines to avoid the catastrophic failures in future and improve the safe and reliable operation of the machines, upgrades such as the installation of Combustion Dynamics Monitoring (CDM) and Blade Health Monitoring (BHM) systems were carried out along with replacement of critical components in GT-3 & GT-4 of the project in 2018-19. The CDM system plays a crucial role in monitoring the dynamics of the gas turbine combustion process, detecting potential issues early, and providing operators with advance warnings. Additionally, the BHM system enhances reliability by continuously tracking the condition of compressor blades, identifying early signs of wear or damage, and facilitating timely interventions to prevent catastrophic failures. Further, the Gas Turbines have a Mark-VI control System, and the data and trends were recorded in a Mark-VI system for three days only. While operating GTs, it was felt that analysis of tripping will be reliable and diagnosis of fault will be more accurate with the Historian system as more signals are incorporated in this system. Therefore, a Historian system developed by BHEL-EDN (BHEL-Electronics Division) for Gas turbine operation was commissioned at the project with a capacity of more than 5000 signals at a time. It refers to a database application that logs time-based process data. It is used to record trends and parameters of machines and processes for future reference and captures plant real time parameters with enhanced data capture, data compression, and data presentation capabilities and can store and archive large volumes of data.
- iv. The Petitioner also claimed additional capital expenditure for the Historian system for Gas Turbine in Petition No. 221/GT/2015, and the Commission, vide its order dated 26.11.2019, allowed the same for 2015-16. However, due to unforeseen circumstances, the same could be completed in 2018-19, and the same has been claimed by the Petitioner.
- v. Since GT-4 was already compliant to improved operational safety and reliability, hence replacement of critical components was not required, therefore, the financial impact of the upgrades such as the installation of CDM and BHM systems at GT-3 &



4 and replacement of critical components at GT-3 was only Rs 26.76 Crore, which were capitalized. The Petitioner has submitted that the proactive approach of phased up-gradation and maintenance at the project ensures compliance with modern performance standards, reduces the likelihood of future failures, and reinforces the station's commitment to maintaining high standards of reliability and safety across its operations.

- vi. The Petitioner has claimed the additional capitalization due to the replacement of critical components and upgradation of Gas Turbines (GTs) Nos. 1, 2, 3, and 4 during the period 2016-17 to 2018-19 under Regulation 29 (2) and Regulation 14 (3) (vii) of the 2014 Tariff Regulations.

Decision

vii. The matter has been examined. It is noticed that the above claim of the Petitioner includes the replacement of critical components of the Compressor rotor, including vanes, IGVs, IGV actuator, EGVs, and the BHM system upgrade and Historian system for Gas Turbine. It is noticed that the above claim of the Petitioner (except Historian system for Gas Turbine) relates to necessary works required for efficient operation to be duly supported by 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. However, the Petitioner has not submitted any justification with any documentary evidence. It is observed that the Petitioner has not furnished any documentary evidence in support of the claims, including the reason as to why such a catastrophic failure happened within a couple of years from the COD of the generating station. Given the above, and because the claim of the Petitioner is beyond the original scope, the additional capitalization claimed has not been allowed in this order, except for the amount of Rs. 80.00 lakh towards the implementation of the Historian system in 2018-19, which was earlier allowed vide the Commission's order dated 26.11.2019 in Petition No. 221/GT/2015. However, the Petitioner is granted liberty to claim the additional capital expenditure towards the replacement of critical components of the Compressor rotor, including vanes, IGVs, IGV actuator, EGVs, and the BHM system upgrade with full justification. The Commission has also not considered any decapitalization against the upgradation claimed by the Petitioner for the replacement



of critical components of the Compressor rotor, including vanes, IGVs, IGV actuator, EGVs, and the BHM system upgrade. and independent third-party inspection.

16. Based on the above decisions at paragraph 15, the year-wise claims of the Petitioner are examined as under:

2014-15

(Rs. in lakh)							
Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification submitted by the Petitioner	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	8
1	Addition in Gross Block amount during the period (Bought out Items of station)	10490.40		10490.40		To facilitate day-to-day operation and maintenance activities and to help in reducing downtime of various maintenance activity as well as plant availability.	Allowed (Refer to paragraph 15 a) i)
a	EDP, WP machines	1.24		1.24	14(1) (i)	PCs for Store Setup	
b	Furniture and fixtures	9.49		9.49		Furniture purchased for initial setup of Plant Offices	
c	Laboratory and workshop equipment	1.50		1.50		Electrical testing Equipment for initial Electrical lab set up	
d	Other Buildings	4.16		4.16		Installation and commissioning of tube well and submersible pump set to meet drinking water requirement	
e	Other Office Equipment's	1.63		1.63		Projector, AC, Heater, etc., for initial office setup	
f	Safety & Security Equipment's	12.49		12.49		Purchase of Breathing Apparatus for emergency rescue in plant Initial setup.	
g	Capital Spares	10459.88		10459.88	14 (1) (iii)	When the plant was under initial setup, The OEM GE recommended Gas turbine Capital spares under LTSA to ensure availability guarantee.	Allowed Rs. 7920.51 lakh [Refer to paragraph 15 a) ii (c)]
2.	Addition in Gross Block amount during the period (Bought out Items of HQ Share)	8.75		8.75			Allowed (Refer to paragraph 15 (b) i)
	EDP, WP machines	2.13		2.13	14(1)(i)		
	Furniture and fixtures	0.49		0.49			
	Other Office Equipment's	0.02		0.02			
	Software	6.10		6.10			
3	Addition in Gross Block amount during the need/ Transferred from (WIP)	18289.80	2542.99	15746.81		The Items listed were in the original scope of work of the Turnkey Project awarded to BHEL in 2008.	Allowed (Refer to paragraph 15 (c) i)
	Batteries - cable duct system	291.73			14(1)(ii)		



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification submitted by the Petitioner	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	8
	Batteries-Undergrad cable incant & discounted box	14.01					
	Cooling towers and circulating water systems	170.73					
	Diesel electric & gas plant	5457.50					
	Main Plant Buildings	7225.94					
	Other Buildings	743.16					
	P/M-Any Other Asset	128.44					
	Steam Turbine & Waste Heat Recovery Boilers	2295.46					
	Switchgear, including cable connections	490.55					
	Transformers of 100 kilo volt amperes and above	566.39					
	Water supply, drainage & sewerage	905.90					
4	Capitalization due to discharge of liability	1747.65		1747.65	14 (1) (i)		Allowed (Refer to paragraph 21)
	Grand Total 2014-15	30536.60	2542.99	27993.61			

2015-16

(Rs. in lakh)

Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	8
B.	For 2015-16						
1	Addition in Gross Block amount during the period (Bought out Items of station)	18.16		18.16			
	Communication equipment	0.05		0.05	14 (1)(i)	Telephone set for Initial Office setup	Allowed (Refer to paragraph 15 (a) i)
	Furniture and fixtures	3.21		3.21		Extendable Tower Ladder & Chair Purchased. The Ladder is for repair of streetlight and high height repair work in initial plant setup.	
	Laboratory and workshop equipment	5.63		5.63		Infrared Camera for Thermal Detection for Switchyard Electrical Protection	
	Other Office Equipment's	9.17		9.17		Purchased 3 Tonn Tower A/Cs for Control Room, Engineering Room and Panel Rooms to avoid card Failure and breakdown due to Heat Load	



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	8
	Weighing Machine	0.11		0.11		Purchased weighing Machine for store as part of initial plant setup	
2	Addition in Gross Block amount during the period (HQ share)	0.00		0.00			
3	Addition in Gross Block amount during the period (Transferred from CWIP)	2633.16	1581.44	1051.72	14(1)(ii)	The items listed were in the original scope of work of the Turnkey Project awarded to BHEL in 2008.	Allowed (Refer to paragraph 15 (c) i)
	Air conditioning plants - Static	1.48					
	Batteries - Cable duct system	23.77					
	Batteries-Undergrad cable incant & discounted box	3.1					
	Cooling towers and circulating water systems	89.12					
	Diesel electric & gas plant	683.01					
	Main Plant Buildings	567.78					
	Other Buildings	12.41					
	P/M-Any Other Asset	108.47					
	Safety & Security Equipment's	395.3					
	Steam Turbine & Waste Heat Recovery Boilers	615.53					
	Switchgear, including cable connections	88.9					
	Transformers of 100 kilo volt amperes and over	44.26					
4	Capitalization due to discharge of liability	2686.23		2686.23	14 (1) (i)		Allowed (Refer to paragraph 21)
	Grand Total 2015-16	5337.56	1581.44	3756.12			

2016-17

(Rs. in lakh)

Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
C. For 2016-17							
1	Addition In Gross Block amount during the period (Bought out Items of station)	1933.86		1933.86			
	Meters	2.49		2.49	14(1) (i)	HANDHELD CABLE FAULT LOCATOR & Clamp Meter	Allowed (Refer to paragraph 15 (a) i)



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
						purchased for the Protection System of	
	Safety & Security Equipment's	2.94		2.94		Purchased Foam Generator and DCP Trailer-mounted Fire Safety Equipment for plant Fire	
	Vehicles	4.15		4.15		Purchased Battery operated Platform Truck for shifting of Protection Equipment inside plant	
	Capital Spares	1924.28		1924.28	14 (1)(iii)	Spares include Mandatory spares recommended by OEM, SHEL as the items have very long delivery until 36 Months & GE spares under LTSA. Therefore, for ensure plant availability the Mandatory spares were procured.	Not Allowed [Refer to paragraph 15 a) ii (c)]
2	Addition In Gross Block amount during the period (HQ share)	2.13		2.13			Allowed (Refer to paragraph 15 b) i)
	EDP, WP machines	2.13		2.13	14(1)(ii)		
3	Addition In Gross Block amount during the period (Transferred from (WIP))	2301.77	1022.37	1279.39			Allowed (Refer to paragraph 15 c) i)
	Air conditioning plants - Static	33.48					
	Batteries - cable duct system	68.29					
	Batteries-Undergrad cable incant & discounted box	2.95					
	Cooling towers and circulating water systems	18.42					
	Diesel electric & gas plant	328.38					
	Main Plant Buildings	1163.71					
	Other Buildings	13.26					
	P/M-Any Other Asset	215.28					
	Safety & Security Equipment's	109.76					
	Steam Turbine & Waste Heat Recovery Boilers	321.25					
	Switchgear, including cable connections	7.03					
	Transformers of 100 kilo volt amperes and over,	19.95					
4	Capitalization due to discharge of liability	1920.09		1920.09	14(1)(i)		Allowed (Refer to paragraph 21)



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
5	Additions in Gross Block amount during period (Restoration of GT-1)	3398.68		3398.68	29 (2)		Not Allowed (Refer to paragraph 15 d) vii)
	Grand Total 2016-17	9556.52	1022.37	8534.15			

2017-18

(Rs. in lakh)

Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
D. For 2017-18							
1	Addition In Gross Block amount during the period (Bought out Items of station)	138.05		138.05			
	Furniture and fixtures	2.48		2.48	14 (3) (vi)	Purchase of Pedestal and Wall Fan for Office Setup	Allowed (Refer to paragraph 15 a) i)
	Laboratory and workshop equipment	50.01		50.01		Testing Kit, CT Transformer, Sound Level Meter, 34-134dba Var Fren reactance & Tan Delta Test Set was purchased for Plant electrical Protection	
	Other Office Equipment's	12.92		12.92		Purchase of Water Filter, Water cooler etc for drinking water arrangement and office setup	
	Safety & Security Equipment's	5.71		5.71		CCTV System for Store of PPS-III, Bawana	
	Vehicles	66.94		66.94		Purchase of Fire tender to meet energy fire situation in Plant	
2	Addition In Gross Block amount during the period (HQ share)	45.20		45.20			Allowed (Refer to paragraph 15 b) i)
	EDP, WP machines	43.13		43.13	14(3)(vi)		
	Software	2.06		2.06			



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
3	Addition in Gross Block amount during the period (Transferred from (WIP))	6955.59	3326.71	3628.89		The Items listed were in the original scope of work of the Turnkey Project awarded to BHEL in 2008.	Allowed (Refer to paragraph 15 c) i)
	Main Plant Buildings	3953.44			14(3)(vi)		
	Other Buildings	115.59					
	Roads, bridges, culverts & helipads	84.03					
	Air conditioning plants - Static	4.29					
	Batteries - Cable duct system	182.66					
	Cooling towers and circulating water systems	107.85					
	Diesel electric & gas plant						
	Diesel electric & gas plant	1936.60					
	P/M- Any Other Asset	56.30					
	Safety & Security Equipment's	152.70					
	Steam Turbine & Waste Heat Recovery Boilers	183.33					
	Switchgear, including cable connections	137.34					
	Transformers of 100 kilo volt amperes and over	41.48					
4	Capitalization due to discharge of liability	2957.93		2957.93	14(3)(v)		Allowed (Refer to paragraph 21)
5	Additions in Gross Block amount during period (Replacement of critical component and Upgradation in GT-2)	4532.36		4532.36			Not Allowed (Refer to paragraph 15 d) vii)
	Grand Total 2017-18	14629.13	3326.71	11302.42			



2018-19

(Rs. in lakh)

Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
E. For 2018-19							
1	Addition in Gross Block amount during the period (Bought out Items of station)	64.92		64.92			
	Laboratory and workshop equipment	10.25		10.25	14 (3)(v)	Purchase of Visible Spectrophotometer. Port Dissolved Oxygen Measurement Meter. Conductivity Meter & pH Meter for Testing plant water quality control used in boiler etc	Allowed (Refer to paragraph 15 a) i)
	Other Office Equipment's	50.26		50.26		Installation of New CCTV cameras as per 18 recommendation and AC for Office Installation	
	Vehicles	4.42		4.42		Purchased 4-wheel Battery Operated Platform truck for shifting motor etc to reduce downtime during breakdown	
2	Addition In Gross Block amount during the period (HQ Share)	4.96		4.96			Allowed (Refer to paragraph 15 b) i)
	EDP, WP machines	4.77		4.77	14(3)(v)		
	Furniture and fixtures	0.19		0.19			
3	Addition In Gross Block amount during the period (Transferred from (WIP))	2118.22	1683.17	435.05		The Items listed were in the original scope of work of the	
	Air conditioning plants – Static	5.84			14(3)(v)		
	Batteries - cable duct system	1.95					



Sl. No	Head of work / equipment	ACE Claimed (Actual)			Regulation	Justification	Remarks for admissibility
		Accrual basis	UDL incl. in Col.3	Cash basis			
1	2	3	4	5=3-4	6	7	
	Cooling towers and circulating water systems	23.41			14(3)(v)	Turnkey Project awarded to BHEL in 2008.	Allowed (Refer to paragraph 15 c) i)
	Diesel electric & gas plant	1106.40					
	Main Plant Buildings	111.32					
	Other Buildings	23.40					
	P/M-Any Other Asset	339.97					
	Roads, bridges, culverts & helipads	37.03					
	Safety & Security Equipment's	226.60					
	steam Turbine & Waste Heat Recovery Boilers	176.75					
	Switchgear, including cable connections	31.36					
	Transformers of 100 kilo volt amperes and over	18.42					
	Vehicles	15.77					
4	Capitalization due to discharge of liability	2178.83		2178.83	14(3)(v)		Allowed (Refer to paragraph 21)
5	Additions in Gross Block amount during period (Upgradation in GT-3 & 4 and Installation of Historian System in Gas Turbines)	2676.27		2676.27			Not Allowed (Refer to paragraph 15 d) vii)
	Grand Total 2018-19	17239.01	1683.17	13404.49			

Decapitalization

17. As the Petitioner had not furnished the details of the decapitalization, the Commission, vide ROP of the hearings dated 31.3.2022 and 6.1.2023, directed the Petitioner to submit the item-wise additional capitalization and decapitalization. In response, the Petitioner submitted the details on 30.5.2022 and 28.2.2023, respectively. It is observed from the submissions that the Petitioner has claimed the total de-capitalization of Rs. 6149.60 lakh during the period 2014-19 under Regulation 14(4) of the 2014 Tariff Regulations, wherein, an amount of Rs. 6146.28 lakh corresponds to the de-capitalization of spares (i.e. Rs. 3138.21 lakh in 2016-17, Rs. 3008.07 lakh in 2017-18) and Rs. 0.32 lakh in 2014-15, Rs. 3.00 lakh in 2016-17 towards decapitalization of Misc. Items. The same has



not been considered for decapitalization. Accordingly, the decapitalization considered for the period 2014-19 is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalization Claimed	0.32	0.00	3141.21	3008.07	0.00
Decapitalization Allowed	0.32	0.00	3.00	0.00	0.00

Discharge of Liabilities

18. The Petitioner has claimed the discharge of liabilities as additional capital expenditure. The Petitioner was directed to submit the details of discharge of liabilities for each year of the period vide ROP of the hearing dated 6.1.2023, and in response, the Petitioner, vide affidavit dated 28.02.2024, has submitted the Liability Flow Statement as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Balance	7696.56	8491.90	45062.68	44531.52	45031.09
Milestone payment to be discharged		38809.48			
Payment during the Year	1747.65	3974.87	2172.31	3177.39	15050.91
New Liabilities booked during the year	2542.99	1736.17	1641.15	3676.96	3834.52
Reversal During Year	-	-	-	-	-
Closing Balance	8491.90	45062.68	44531.52	45031.09	33814.70

19. The Petitioner was also directed vide ROPs dated 27.2.2024 and 13.8.2024 to submit further clarifications/ details of un-discharged liabilities and the "Milestone payment to be discharged" on account of 'Undischarged Liability' in 2015-16. In response, the Petitioner, vide affidavit dated 12.7.2024, has furnished the details of such Undischarged Liability. However, the Petitioner, vide the affidavit dated 21.10.2024, revised the Liability Flow Statement for the period 2015-19 as under:

	<i>(Rs. in lakh)</i>			
	2015-16	2016-17	2017-18	2018-19
Opening Liability	8491.90	7387.11	6489.19	6858.17
New Addition of Liability	1581.44	1022.37	3326.71	1683.17
Payment released during the year	2686.23	1920.09	2957.93	2178.83
Closing Liability	7387.11	6489.39	6858.17	6362.51



20. After considering the submissions of the parties regarding the addition in undischarged liabilities in 2015-16, including the affidavit dated 21.10.2024 filed by the Petitioner, we allow the discharge of liabilities till 2018-19 as claimed by the Petitioner. Accordingly, the undischarged liabilities and their discharges claimed by the Petitioner and as approved by the Commission are summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Undischarged liabilities <i>claimed</i>	2542.99	1581.44	1022.37	3326.71	1683.17
Undischarged liabilities <i>approved</i>	2542.99	1581.44	1022.37	3326.71	1683.17
Discharge of Undischarged liabilities <i>claimed</i>	1747.65	2686.23	1920.09	2957.93	2178.83
Discharge of Undischarged liabilities <i>approved</i>	1747.65	2686.23	1920.09	2957.93	2178.83

21. The liability flow statement, based on the capital cost allowed, is as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Liability	7696.56	8491.90	7387.11	6489.39	6858.17
Addition in Liability	2542.99	1581.44	1022.37	3326.71	1683.17
Discharge of Liability	1747.65	2686.23	1920.09	2957.93	2178.83
Closing Liability	8491.90	7387.11	6489.39	6858.17	6362.51

Capital Cost allowed for the period 2014-19

22. The summary of the year-wise net additional capitalization claimed by the Petitioner and allowed by the Commission is summarized below:

2014-15

	<i>(Rs. in lakh)</i>	
	Amount Claimed	Amount Allowed
Bought out items of Station	10490.40	7951.02
Bought out items of HQ share	8.75	8.75
Transferred from CWIP	15746.81	15746.81
Discharge of Liability	1747.65	1747.65
Retirement/ Deletion	-0.32	-0.32
Total Capitalization	27993.29	25453.91

2015-16

	<i>(Rs. in lakh)</i>	
	Amount Claimed	Amount Allowed
Bought out items of Station	18.16	18.16
Bought out items of HQ share	0.00	0.00
Transferred from CWIP	1051.72	1051.72
Discharge of Liability	2686.23	2686.23



	Amount Claimed	Amount Allowed
Retirement/ Deletion	0.00	0.00
Total Capitalization	3756.11	3756.11

2016-17

(Rs. in lakh)

	Amount Claimed	Amount Allowed
Bought out items of Station	1933.86	9.58
Bought out items of HQ share	2.13	2.13
Transferred from CWIP	1279.39	1279.40
Discharge of Liability	1920.09	1920.09
Addition (Revival of GT1)	3398.68	0.00
Retirement/ Deletion	-3141.21	-3.00
Total Capitalization	5392.95	3208.20

2017-18

(Rs. in lakh)

	Amount Claimed	Amount Allowed
Bought out items of Station	138.05	0.00
Bought out items of HQ share	45.20	0.00
Transferred from CWIP	3628.88	3628.88
Discharge of Liability	2957.93	2957.93
Addition (Upgradation in GT2)	4532.36	0.00
Retirement/ Deletion	-3008.07	0.00
Total Capitalization	8294.35	6586.61

2018-19

(Rs. in lakh)

	Amount Claimed	Amount Allowed
Bought out items of Station	64.92	0.00
Bought out items of HQ share	4.96	0.00
Transferred from CWIP	435.05	435.05
Discharge of Liability	2178.83	2178.83
Addition (Upgradation in GT3 & 4)	2676.83	80.00
Retirement/ Deletion	0.00	0.00
Total Capitalization	5360.03	2693.88

23. Accordingly, the capital cost approved for the tariff is as under:

(Rs. in lakh)

Capital cost allowed	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block (A)	384562.93	410016.84	413772.95	416981.15	423567.96
Addition due to Additional Capitalization Approved (B)	25454.23	3756.11	3211.20	6586.81	2693.88
Decapitalization during the year (C)	0.32	0.00	3.00	0.00	0.00
Net Capitalization during the year (D = B-C)	25453.91	3756.11	3208.20	6586.81	2693.88
Closing Gross Block (E = A+D)	410016.84	413772.95	416981.15	423567.96	426261.84
Average Gross Block (F)	397289.88	411894.90	415377.05	420274.56	424914.90



Debt Equity Ratio

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

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

Provided that:

(i) where equity actually deployed is less than 30% of the capital cost actual equity shall be considered for determination of tariff:

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

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

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

25. The gross loan and equity of Rs. 269194.05 lakh and Rs. 115368.88 lakh, respectively, allowed as on 31.3.2014 in the order dated 23.10.2021 in Petition No. 3/RP/2020, has been considered as opening balance as on 1.4.2014. The Petitioner has claimed a debt-equity ratio of 70:30 for additional capital expenditure during 2014-19. In terms of Regulation 19(5) of the 2014 Tariff Regulations, the debt: equity ratio of 70:30 has been considered for additional capital expenditure. Accordingly, the details of the debt-equity



ratio with respect to the generating station as on 1.4.2014 and as on 31.3.2019 are as follows:

(Rs. in lakh)								
	Capital cost as on 1.4.2014	%	Additional Capital Expenditure	%	Decapitalization	%	Capital cost as on 31.3.2019	%
Debt	269194.05	70	29189.24	70	2.32	70	298383.29	70
Equity	115368.88	30	12509.67	30	1.00	30	127878.55	30
Total	384562.93	100	41698.91	100	3.32	100	426261.84	100

Return on Equity

26. Regulation 24 of the 2015 Tariff Regulations provides as under:

“24. Return on Equity:

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

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

(i) in case of projects commissioned on or after 1st April 2014 an additional return of 0.50% shall be allowed if such projects are completed within the timeline specified in Appendix-I:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional ROE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee / National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission if the generating station or transmission system is found to be declared under commercial operation without commissioning any of the Restricted Governor Mode Operation (RGMO) / Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirement are found lacking in a generating station based on the report submitted by the respective RLDC ROE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional ROE shall not be admissible for transmission line having length of less than 50 kilometres.”

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

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee as the case may be. The actual tax income on other income stream (i.e. income of non-generation or non-transmission business as the case may be) shall not be considered for the calculation of “effective tax rate”.



(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t) Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business as the case may be and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT)

"t" shall be considered as MAT rate including surcharge and cess.

Illustration.

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

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

(a) Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.

(b) Estimated Advance Tax for the year on above is Rs 240 crore.

(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore / Rs 1000 Crore = 24%

(d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$

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

28. The Petitioner has claimed Return on Equity (ROE) considered the base rate of 15.50% and effective tax rate (based on MAT rate) for the respective years in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The same has been considered for tariffs. Accordingly, ROE has been worked out as under:

		(Rs. in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional Equity	A	115368.88	123005.05	124131.89	125094.35	127070.39
Net Addition due to Additional Capitalization and De-capitalization	B	7636.17	1126.83	962.46	1976.04	808.16
Closing Equity	C=A+B	123005.05	124131.89	125094.35	127070.39	127878.55
Average Equity	D= Average (A, C)	119186.97	123568.47	124613.12	126082.37	127474.47
Return on Equity (Base Rate)	E	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year	F	20.961%	21.342%	21.342%	21.342%	21.549%



Rate of Return on Equity (Pre-Tax)	$G = E/(1-F)$	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax)	$H = D \cdot G$	23372.56	24349.17	24555.01	24844.53	25186.41

Interest on loan

29. 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 upto the date of de-capitalization of such asset.

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

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

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

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

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

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

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

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

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

30. The necessary calculation of Interest on loan is as under:



- i) Gross normative loan amounting to Rs. 269194.05 lakh, as considered in the order dated 23.10.2021 in Petition No. 3/RP/2020, has been considered as on 1.4.2014.
- ii) Cumulative repayment amounting to Rs. 22925.01 lakh, as considered in the order dated 23.10.2021 in Petition No. 3/RP/2020, has been considered as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 is Rs. 246269.04 lakh.
- iv) In addition to the normative loan on account of additional capital expenditure approved above has been considered.
- v) The repayment for the respective years of the period 2014-19 has been considered equal to the depreciation allowed for that year. Further, repayments have been adjusted for de-capitalization of assets considered for tariff;
- vi) The weighted average rate of interest on loan (WAROI) is based on the details of the actual loan portfolio and rate of interest furnished by the Petitioner.

31. Based on the above, interest on loan has been worked out as under:

<i>(Rs. in lakh)</i>						
		2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional Loan	A	269194.05	287011.79	289641.06	291886.81	296497.57
Cumulative Repayment of Loan up to previous year	B	22925.01	43071.44	63950.19	84985.89	106262.45
Net Opening Loan	C=A-B	246269.04	243940.34	225690.87	206900.91	190235.13
Addition due to Additional Capitalization	D	17817.74	2629.28	2245.74	4610.77	1885.72
Less Repayment of Loan during the period	E	20146.46	20878.75	21036.24	21276.55	21516.46
Repayment Adjustment on account of Decapitalization	F	0.03	0.00	0.54	0.00	0.00
Net Repayment of loan during the year	G=F-E	20146.43	20878.75	21035.70	21276.55	21516.46
Net Closing Loan	H=C+D-G	243940.35	225690.87	206900.91	190235.13	170604.38
Average Loan	I=(C+H)/2	245104.69	234815.61	216295.89	198568.02	180419.75
Weighted Average Rate of Interest on Loan	J	11.34%	11.28%	11.00%	10.90%	10.65%
Interest on Loan	K = I*J	27794.23	26484.45	23793.68	21,46.53	19213.48

Depreciation

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

“27. Depreciation:



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

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

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

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

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

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

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

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

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

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

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

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

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

33. Cumulative depreciation amounting to Rs. 22925.01 lakh as on 1.4.2014, as considered in order dated 23.10.2021 in Petition No. 3/RP/2020, has been retained for the



purpose of tariff. The Weighted Average Rate of Depreciation (WAROD) has been calculated based on the submissions of the Petitioner vide its affidavit dated 19.4.2023.

Accordingly, depreciation allowed for the generating station is as under:

<i>(Rs. in lakh)</i>						
		2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	A	384562.93	410016.84	413772.95	416981.15	423567.96
Addition due to Additional Capitalisation	B	25453.91	3756.11	3208.20	6586.81	2693.88
Closing Capital Cost	C=(A+B)	410016.84	413772.95	416981.15	423567.96	426261.84
Average Capital Cost	D=(A+C)/2	397289.88	411894.90	415377.05	420274.56	424914.90
Value of freehold land	E	-	-	-	-	-
Depreciable Value	F= (D - E)*90%	357560.90	370705.41	373839.35	378247.10	382423.41
Remaining Depreciable Value	G= F – Cum. Dep. of previous year	334635.89	327633.96	309889.16	293261.21	276160.97
WAROD	H	5.07%	5.07%	5.06%	5.06%	5.06%
Depreciation	I=D*H	20146.46	20878.75	21036.24	21276.55	21516.46
Cumulative Depreciation (at the end of the period)	J= I+ Cum. Dep. of previous year	43071.47	63950.19	84986.43	106262.45	127778.91
Depreciation adjustment due to decapitalization	K	0.03	0.00	0.54	0.00	0.00
Cumulative Depreciation after adjustment due to decapitalization (at the end of the period)	L = J-K	43071.44	63950.19	84985.89	106262.45	127778.91

Operation & Maintenance Expenses

34. The Petitioner has claimed O&M expenses as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses under Regulation 29(1) (C) of the 2014 Tariff Regulations	36405.36	38887.23	41533.65	44358.32	47388.67
Capital Spares	-	-	-	13792.13	1585.19
Water Charges	345.02	277.89	264.57	369.66	414.18
Total O&M Expenses Claimed	36750.38	39165.12	41798.22	58240.94	49241.47

35. Regulation 29 (1) (c) of the 2014 Tariff Regulations provides the year-wise O&M expense norms for the instant generating station as under:



	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M Expenses (Rs. in lakh/MW)	26.55	28.36	30.29	32.35	34.56
Normative O&M Expenses for the instant generating station of 1371.2 MW (Rs. in lakh)	36405.36	38887.23	41533.65	44358.32	47388.67

Since the normative O&M expenses claimed by the Petitioner are in terms of the above Regulations, the same is allowed.

36. Regulation 29(2) of the 2014 Tariff Regulations provides for the claim towards water charges, security expenses, and capital spares 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.”*

Water Charges

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

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
345.02	277.89	264.57	369.66	414.18

38. It is observed that the above water charges include the electricity charges and yearly ground rent also. However, the Petitioner, vide the affidavit dated 30.5.2022, has submitted the details of the actual water charges only duly certified by its Auditor. It is observed that the rates submitted by the Petitioner are in line with the rates notified by the Irrigation Department. The Commission, vide its earlier orders, has taken a view that the water charges to be allowed are for the contracted quantum and the actual water consumption for



the generating station only. The relevant extract from the order dated 24.2.2024 in Petition No. 563/GT/2020 is as below:

*“... To negate the anomaly arising out of this situation, the Commission, in its regulations, has permitted the water charges separately. Further, the normative auxiliary consumption norms are in due consideration of historical power consumption, furnished for the various generating stations for the past five-year period and the same includes the power charges for pumping water as well. **Accordingly, the water charges to be allowed are for the contracted quantum and the actual water consumption for the generating station only, and the power charges are not to be allowed separately in the water charges.** ...”*

39. Accordingly, the actual water charges, excluding the electricity charges and yearly ground rent, as certified by the Statutory Auditor, are allowed for the generating station, in terms of Regulation 29(2) of the 2014 Tariff Regulations are as under:

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
253.49	185.28	175.77	241.13	280.48

Capital Spares

40. As per the second proviso to Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has submitted the details of total capital spares of Rs. 36520.22 lakh during the period 2014-19 (i.e., Rs. 10459.88 lakh in 2014-15, Rs. 0.00 lakh in 2015-16, Rs. 1924.28 lakh in 2016-17, Rs. 13792.13 lakh in 2017-18 and Rs. 1585.19 lakh in 2018-19). It is also observed that the Petitioner has submitted the details of capital spares claimed as part of the additional capitalization up to the cut-off date and post-cut-off date; the capital spares have been claimed as part of the additional O&M expenses under Form-17.

41. As regards capital spares, it is pertinent to mention that the capital spares claimed under additional capitalization up to the cut-off date, i.e., from 2014-15 to 2016-17, have been dealt with under the head 'Additional Capitalization' in this order. Capital spares after the cut-off date have been allowed as additional O&M expenses on a consumption basis. After examining the claim of the Petitioner, it is noticed that the capital spares claimed during



the years 2017-18 and 2018-19 are on a consumption basis only. Accordingly, the same has been considered. Keeping in view the principle of materiality and ensuring standardised practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs. 1 lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the Petition, has been considered for tariff. It is observed that no capital spares claimed is below the value of Rs.1 lakh. As spares do have a residual value, therefore, in line with the practice of considering the residual value, presumed to be recovered by the Petitioner on the sale of other capital assets, on becoming unserviceable, the residual value of 10% has been deducted from the cost of capital spares. Therefore, 90% of the capital spares consumed as claimed by the Petitioner for 2017-18 and 2018-19, excluding the residual value at 10%, has been considered.

42. Based on the above, the total O&M expenses, including water charges, as claimed by the Petitioner and allowed for tariff are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses <i>claimed</i> under Regulation 29(1) (C) of the 2014 Tariff Regulations	36405.36	38887.23	41533.65	44358.32	47388.67
Normative O&M expenses <i>allowed</i> under Regulation 29(1) (C) of the 2014 Tariff Regulations	36405.36	38887.23	41533.65	44358.32	47388.67
Capital Spares <i>claimed</i>	-	-	-	13792.13	1585.19
Capital Spares <i>allowed</i>				12412.92	1426.67
Water Charges <i>claimed</i>	345.02	277.89	264.57	369.66	414.18
Water Charges <i>allowed</i>	253.49	185.28	175.77	241.13	280.48
Total O&M Expenses <i>Claimed</i>	36750.38	39165.12	41798.22	58240.94	49241.47
Total O&M Expenses <i>Allowed</i>	36658.85	39072.51	41709.42	57012.37	49095.83

Operational Norms

Normative Annual Plant Availability Factor

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



Auxiliary Energy Consumption

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

Station Heat Rate

45. The Gross Station Heat Rate of 1845.14 kCal/ kWh claimed by the Petitioner is in line with the Commission's order in Petition No. 221/GT/2015 and hence allowed.

46. Given the above, the operational norms for the generating station allowed are as under:

Normative Annual Plant Availability Factor (NAPAF)	85%
Gross Station Heat Rate (kcal/kWh)	1845.14
Auxiliary Power Consumption	2.50%

Interest on Working Capital

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

- (1) *The working capital shall cover*
- (b) *Open-cycle Gas Turbine/Combined Cycle thermal generating stations*
- (i) *Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
 - (ii) *Maintenance spares @ 30% of operation and maintenance expense specified in regulation 29; and*
 - (iii) *Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of the generation stations of gas fuel and liquid life;*
 - (iv) *Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
 - (v) *Operation and maintenance expenses for one month."*
- (2) *The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.*
- (3) *Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the*



tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof as the case may be is declared under commercial operation whichever is later.

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

Fuel Cost and Energy Charges for Working Capital

48. The Fuel cost for 30 days of generation at NAPAF and Energy charges for two months of generation at NAPAF have been calculated based on the Gross Calorific Value (GCV) and Gas Price. The Petitioner has also considered the same while computing the Energy Charges claimed. Based on the operational norms, GCV & price of Gas and mode of operation for the preceding three months, i.e., January 2014, February 2014 and March 2014 is 9644.22 kCal/SCM and Rs. 15138.60/1000 SCM. Accordingly, the Energy Charges claimed by the Petitioner and worked out based on the 2014 Tariff Regulations is as under:

	Unit	2014-19
Capacity	MW	1371.2
Gross Station Heat Rate (combined cycle)	kcal/kWh	1845.14
Gross Station Heat Rate (open cycle)	kcal/kWh	2755.78
Auxiliary Energy Consumption (combined cycle)	%	2.50
Auxiliary Energy Consumption (open cycle)	%	1
GCV of Gas (Weighted Average)	kcal/SCM	9644.22
Price of Gas (Weighted Average)	Rs. /1000 SCM	15138.60
Rate of Energy Charge (ex-bus) (combined cycle)	Rs./kWh	2.971
Rate of Energy Charge (ex-bus) (open cycle)	Rs./kWh	4.369

49. Based on the Energy Charge Rate approved for the period 2014-19 above, the Fuel cost for 30 days is worked out as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Gas for 30 days	24305.32	24305.32	24305.32	24305.32	24305.32

Maintenance of spares

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

(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
11025.11	11749.54	12539.47	17472.28	14772.44



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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
10997.65	11721.75	12512.83	17103.71	14728.75

Receivables

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

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Charges Corresponding to NAPAF (A)	49292.39	49427.44	49292.39	49292.39	49292.39
Capacity Charges Corresponding to NAPAF (B)	20427.09	20931.08	21004.01	23472.47	21737.18
Total (C) = (A)+(B)	69719.48	70358.52	70296.40	72764.86	71029.57

O & M Expenses (1 month)

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
3062.53	3263.76	3483.18	4853.41	4103.46

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
3054.90	3256.04	3475.79	4751.03	4091.32



Rate of interest on Working Capital

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

<i>(Rs. in lakh)</i>						
		2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Fuel cost for 30 days	A	24305.32	24305.32	24305.32	24305.32	24305.32
Working capital for Maintenance Spares @ 30% of O&M expenses	B	10997.65	11721.75	12512.83	17103.71	14728.75
Working capital for Receivables corresponding to NAPAF (2 Months)	C	69719.48	70358.52	70296.40	72764.86	71029.57
Working capital for O&M expenses for 1 month	D	3054.90	3256.04	3475.79	4751.03	4091.32
Total Working Capital	E= A+B+C+D	108077.36	109641.63	110590.33	118924.92	114154.96
Rate of Interest	F	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital	G= F*E	14590.44	14801.62	14929.69	16054.86	15410.92

Annual Fixed Charges for the period 2014-19

56. Accordingly, the annual fixed charges allowed for the generating station for the period 2014-19 (after truing-up) are summarized as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	20146.46	20878.75	21036.24	21276.55	21516.46
Interest on Loan	27794.23	26484.45	23793.68	21646.53	19213.48
Return on Equity	23372.56	24349.17	24555.01	24844.53	25186.41
Interest on Working Capital	14590.44	14801.62	14929.69	16054.86	15410.92
O&M Expenses	36658.85	39072.51	41709.42	57012.37	49095.83
Total Annual Fixed Charges allowed	122562.55	125586.49	126024.05	140834.85	130423.10

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



58. Petition No. 361/GT/2020 is disposed of in terms of the above.

Sd/-
(Harish Dudani)
Member

Sd/-
(Ramesh Babu V.)
Member

Sd/-
(Jishnu Barua)
Chairperson

