

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 446/GT/2020

Coram:

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

Date of Order: 28th November, 2024

In the matter of:

Petition for determination of tariff of Muzaffarpur Thermal Power Station, Stage-II (390 MW) for the period 2019-24.

And

In the matter of:

Kanti Bijlee Utpadan Nigam Limited
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road, New Delhi– 110 003

.....Petitioner

Vs

1. Bihar State Power Holding Company Limited,
Vidyut Bhawan, Bailey Road, Patna – 800 001.
2. North Bihar Power Distribution Company Limited,
Vidyut Bhawan, Bailey Road, Patna 800 001
3. South Bihar Power Distribution Company Limited,
Vidyut Bhawan, Bailey Road, Patna 800 001
4. Jharkhand Bijlee Vitaran Nigam Limited,
Engineering Building, HEC Township, Dhurwa,
Ranchi – 834 004
5. GRIDCO Limited,
Janpath, Bhubaneshwar – 751 022
6. West Bengal State Electricity Distribution Company Limited,
Vidyut Bhawan, Bidhan Nagar, Block DJ,
Sector-II, Salt Lake City, Kolkata – 700 091
7. Power Department,
Govt. of Sikkim, Kazi Road, Gangtok, Sikkim – 737 101
8. Damodar Valley Corporation,
DVC Towers, VIP Road, Kolkata, West Bengal – 700 054

.... Respondents



Parties Present:

Ms. Swapna Seshadri, Advocate, KBUNL
 Ms. Ritu Apurva, Advocate, KBUNL
 Shri Karthikeyan Murugan, Advocate, KBUNL
 Shri Saurav Lalhal, KBUNL
 Shri Prashant Chaturvedi, KBUNL
 Shri Puneeth Ganapathy, Advocate, BSPHCL
 Shri Sankalp Udgata, Advocate, BSPHCL

ORDER

This petition has been filed by the Petitioner, Kanti Bijlee Utpadan Nigam Limited (KBUNL) for the determination of the tariff of Muzaffarpur Thermal Power Station, Stage-II (2x195 MW) (in short “the generating station”) for the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short, “the 2019 Tariff Regulations”). Unit-I and Unit-II of the generating station achieved COD on 18.3.2017 and 1.7.2017, respectively. The Commission vide its order dated 18.7.2023 in Petition No. 421/GT/2020 had trued up the tariff of the generating station for the period 2014-19. Accordingly, the annual fixed charges and the capital cost allowed vide the order dated 18.7.2023 are as under:

Capital Cost allowed*(Rs. in lakh)*

	2016-17	2017-18		2018-19
	COD of Unit-I (18.3.2017 to 31.3.2017)	1.4.2017 to 30.6.2017	COD of Unit-II (1.7.2017 to 31.3.2018)	
Opening capital cost	185132.12	185458.42	302319.12	306433.14
Add: Additional capital expenditure	326.30	2675.30	4114.02	22382.24
Closing capital cost	185458.42	188133.72	306433.14	328815.38
Average capital Cost	185295.27	186796.07	304376.13	317624.26

Annual Fixed Charges allowed*(Rs. in lakh)*

	2016-17	2017-18-18		2018-19
	COD of Unit-I (i.e. 18.3.2017 to 31.3.2017)	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017 to 31.3.2018)	
Depreciation	8603.90	8673.59	14485.34	15119.38
Interest on loan	12523.34	12504.03	19524.17	17487.61



Return on Equity	8616.23	8686.02	14153.49	18826.86
Interest on Working Capital	2220.75	2272.85	4219.23	4346.72
O&M Expenses	5272.56	5596.50	11193.00	12182.70
Total	37236.79	37732.99	63575.23	67963.26

Present Petition

2. The Petitioner has filed the present Petition for the determination of the tariff of the generating station for the period 2019-24 and has claimed the capital cost and the annual fixed charges as under:

Capital Cost claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	330567.52	364957.83	394313.18	415344.68	415944.68
Add: Addition during the year *	34390.31	29355.35	21031.50	600.00	0.00
Closing capital cost	364957.83	394313.18	415344.68	415944.68	415944.68
Average capital cost	347762.68	379635.51	404828.93	415644.68	415944.68

* claimed as eligible for return on equity at a normal rate of ROE.

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	16275.29	17766.94	18945.99	19452.17	19466.21
Interest on Loan	18589.92	19037.50	18972.71	17928.01	16198.61
Return on Equity	20612.77	22501.96	23995.24	24636.31	24654.09
Interest on Working Capital	3732.01	3815.23	3877.63	3903.43	3899.39
O&M Expenses	14332.35	14784.75	15248.85	15736.35	16235.55
Total	73542.36	77906.38	81040.43	81656.28	80453.85

3. The Respondent Nos.1, 2, and 3 herein viz., Bihar State Power Holding Company Limited (BSPHCL), North Bihar Power Distribution Company Limited, and South Bihar Power Distribution Company Limited (collectively referred to as 'the Bihar Discoms') have vide affidavit dated 23.7.2021 filed a combined reply. The Petitioner, vide its additional affidavit dated 13.8.2021, has submitted certain additional information regarding CHP, MGR, and the Stormwater package, as claimed in the petition. Subsequently, vide an additional affidavit dated 6.1.2022, the Petitioner has prayed for an extension of the cut-off date of the generating station and has also, vide an affidavit dated 8.4.2022, sought the relaxation in the gross Station Heat Rate (SHR). Further, the Petitioner vide affidavit dated 4.7.2022 submitted that on



28.3.2022, the Ministry of Power, GOI, had reallocated the power surrendered by some of the beneficiaries of the Project to the State of Tamil Nadu. The Petitioner vide affidavit dated 15.7.2022 has filed its rejoinder to the combined reply filed by the Respondent Bihar Discoms. The Petition was heard through video conferencing on 28.7.2022, and the Commission, after seeking certain additional information from the Petitioner, reserved its order in the matter. In response, the Petitioner vide affidavit dated 15.9.2022 has submitted the additional information after serving a copy on the Respondents. However, as the order in the petition could not be issued prior to one Member of the Commission, who formed part of the Coram demitting office, the Petition was re-listed and heard the matter on 6.2.2024. On a specific query of the Commission about why TANGEDCO has not been arrayed as a party Respondent in the present case, the learned counsel for the Petitioner clarified that since TANGEDCO was not a beneficiary of the project at the time of filing of the present petition and during the pendency of the proceedings, but only had a temporary re-allocation of 88 MW for only one year, there was no requirement to array TANGEDCO as a party Respondent. It was further submitted that it had been the consistent practice of the parties, during the various tariff periods, to array only the long-term original beneficiaries as party Respondents in the tariff petitions. Thereafter, the Commission, after hearing the parties, accepted the submissions and, after directing the Petitioner to file certain additional information, reserved its order in the matter. The Petitioner vide affidavit dated 12.4.2024 has filed the additional information after serving a copy on the Respondents. The Respondent Bihar Discoms have filed a combined reply vide affidavit dated 9.5.2024, and the Petitioner has filed its rejoinder vide affidavit dated 15.5.2024 to the said reply. However, as the order could not be issued, the matter was relisted and heard on 13.6.2024, and based on the submissions of the learned counsel



for the parties, the order in the petition was reserved. Since the order in the Petition (which was reserved on 13.6.2024) could not be issued prior to one Member, who formed part of the Coram, demitting office, the matter was re-listed and heard on 8.8.2024 and based on the consent of the parties, the order in the petition was reserved.

4. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed with the determination of the tariff of the generating station for the period 2019-24, as stated in the subsequent paragraphs.

Capital Cost

5. Clauses (1), (3) and (5) of Regulation 19 of the 2019 Tariff Regulations provides as under:

“19. Capital Cost: (1) The capital cost of the generating station or the transmission system, as the case may be, 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.

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

(a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;

(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;

(c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;

(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and

(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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(5) The following shall be excluded from the capital cost of the existing and new projects:



- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:
 Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;
 Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.
- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

6. The annual fixed charges claimed by the Petitioner are based on the opening capital cost of Rs.330567.52 lakh, as against the capital cost as of Rs.328815.38 lakh as on 31.3.2019, on a cash basis, allowed vide order dated 18.7.2023 in Petition No. 421/GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs.328815.38 lakh has been considered as the opening capital cost as on 1.4.2019.

Additional Capital Expenditure

7. Regulations 24, 25, and 26 of the 2019 Tariff Regulations provide as under:

“24. Additional Capitalisation within the original scope and upto the cut-off date:

(1) The additional capital expenditure in respect of a 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:

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.



(2) The generating company or the transmission licensee, as the case may be shall submit 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

25. Additional Capitalisation within the original scope and after the cut-off date:

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

(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;

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

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

(d) Liability for works executed prior to the cut-off date;

(e) Force Majeure events;

(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and

(g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

26. Additional Capitalisation beyond the original scope

(1) 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 beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

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

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis:



Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

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

8. The Petitioner has claimed the total projected additional capital expenditure of Rs.85377.16 lakh during the period 2019-23 (i.e., Rs.34390.31 lakh in 2019-20, Rs.29355.35 lakh in 2020-21, Rs.21031.50 lakh in 2021-22 and Rs.600 lakh in 2022-23) as tabulated under:

<i>(Rs. in lakh)</i>					
Sl. No.	Head of Work /Equipment	Projected additional capital expenditure			
		2019-20	2020-21	2021-22	2022-23
1	Total Land & Site Development	1004.00	700.00	-	-
2	Steam & Turbine Generator Island	288.00	-	-	-
	BOP Mechanical				
3	CW system	51.00	-	-	-
4	DM water Plant	24.00	-	-	-
5	Cooling Towers	7.00	-	-	-
6	Clarification plant/PT plant	403.70	-	-	-
7	Ash Handling System	2247.20	4508.30	1407.70	-
8	Ash Water Recirculation System	811.00	1293.00	-	-
9	Coal Handling Plant	12109.00	13311.00	8243.00	-
10	MGR	681.00	1521.00	-	-
11	Air Conditioning System	7.00	-	-	-
12	Ventilation System	29.00	-	-	-
13	Firefighting System	100.00	150.00	50.00	-
14	HP/LP Piping (Station Piping package)	157.00	-	-	-
15	Storm Water Package	-	-	2250.00	-
	BOP Electrical				
16	Switch Yard Package	620.00	165.80	-	-
17	Generator Bus Duct	23.00	-	-	-
18	Power Transformers Package	342.00	-	-	-
19	LT Transformer Package	63.20	-	-	-
20	HT Switchgear Package	16.75	-	-	-
21	LT Switchgear Package	115.50	-	-	-
22	Cables, Cable facilities & grounding	150.00	-	-	-
23	Main Electrical Equipment	414.00	150.00	-	-
24	Construction power package	13.18	-	-	-
25	ZLD Scheme	-	96.00	-	-
26	C & I Package	116.00	-	-	-
27	Initial spares	4838.78	1350.00	1500.00	600.00



Sl. No.	Head of Work /Equipment	Projected additional capital expenditure			
		2019-20	2020-21	2021-22	2022-23
	Civil Works			-	-
28	Main Plant Civil Package	975.00	325.00	-	-
29	Civil Infrastructure Package	2000.00	2243.00	-	-
30	CW System-Makeup Water civil	1500.00	1501.00	-	-
31	DM water Plant	115.00	-	-	-
32	Township & Colony	4762.00	-	-	-
33	Ash disposal area development / Ash Dyke	407.00	2041.25	7580.80	-
	Total (A)	34390.31	29355.35	21031.50	600.00

9. Since the COD of the generating station is 1.7.2017, the Petitioner has claimed the cut-off date of the generating station as 30.6.2020. The Petitioner has also segregated the claim for the projected additional capital expenditure in 2020-21 into two segments, viz., from 1.4.2020 to 30.6.2020 and from 1.7.2020 to 31.3.2021 as detailed under:

<i>(Rs. in lakh)</i>				
Sl. No	Items / Works	1.4.2020 to 30.6.2020	1.7.2020 to 31.3.2021	Total
1	Total Land & Site Development	500	200	700
2	Ash Handling System	1108	3550.3	4658.3
3	Ash Water Recirculation System	100	1193	1293
4	Coal Handling Plant	2030	11281	13311
5	MGR		1521	1521
6	Firefighting system	50	100	150
7	Switch Yard Package	165.80		165.80
8	Main Electrical Equipment			0
9	Initial Spares		1350	1350
	Civil Works			
10	Main Plant Civil Package	150	175	325
11	Civil Infrastructure Package	1000	1243	2243
12	CW System-Makeup water civil	500	1001	1501
13	Ash disposal area development / Ash dyke	200	1841.25	2041.25
14	Zero Liquid Discharge (ZLD)	-	96	96
	Total	5803.80	23551.55	29355.35

10. In justification for the projected additional capital expenditure claimed for the period from 1.4.2020 to 30.6.2020, the Petitioner has submitted that the said works claimed under Regulation 24(1)(b) and 24(1)(c) of the 2019 Tariff Regulations, are within the original scope of work of the project and deferred for execution, after the COD but up to the cut-off date. As regards the projected additional capital expenditure



claimed for the period from 1.7.2020 to 31.3.2021 and for the period 2021-23, the Petitioner has submitted the item-wise justification and has claimed the same under Regulation 24(1)(c) and sub-clauses (c) and (g) of Regulation 25(1) read with Regulation 76 (power to relax) of the 2019 Tariff Regulations. These are discussed below:

Submissions of the Petitioner

Land & Site Development

11. The Petitioner has claimed the total projected additional capital expenditure of Rs 1704 lakh (i.e., Rs.1004 lakh in 2019-20 and Rs.500 lakh up to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.200 lakh for the period from 1.7.2020 to 31.3.2021) under Regulation 25(1) read with Regulation 76 (power to relax) of the 2019 Tariff Regulations, towards 'Land & Site Development.' In justification for the claim for the period from 1.7.2020 to 31.3.2021, the Petitioner has submitted that about 25 acres of land for community development, part of the original scope of works, is to be physically occupied. It has also been submitted that though the final award has been declared under the Land Acquisition Act by the District Administration in the year 2016, the land owners were demanding compensation at the prevailing market rate.

Coal Handling Plant

12. The Petitioner has claimed the total projected additional capital expenditure of Rs 33663 lakh during 2019-22 (Rs.12109.00 lakh in 2019-20 and Rs.2030.00 lakh up to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.11281.00 lakh from 1.7.2020 to 31.3.2021 and Rs.8243.00 lakh in 2021-22 under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations towards the 'Coal Handling Plant'. In justification for the claims from 1.7.2020 to 31.3.2022, the



Petitioner has submitted that the justification for additional time taken for works within the original scope of work but deferred beyond the cut-off date shall be submitted later.

MGR

13. The Petitioner has claimed the total projected additional capital expenditure of Rs.2202.00 lakh during 2019-21 (Rs.681.00 lakh in 2019-20 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.1521.00 lakh from 1.7.2020 to 31.3.2021 under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations, towards 'MGR'. In respect of the claim in 2020-21, the Petitioner has submitted that the justification for the additional time taken for works within the original scope of work but deferred beyond the cut-off date shall be submitted later.

Firefighting System

14. The Petitioner has claimed the total projected additional capital expenditure of Rs.300.00 lakh during the period 2019-22 (Rs.100.00 lakh in 2019-20 and Rs.50.00 lakh up to 30.6.2020 in 2020-21 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.100.00 lakh from 1.7.2020 to 31.3.2021 and Rs.50.00 lakh in 2021-22 under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations towards 'Firefighting system'. In justification for the claim from 1.7.2020 to 31.3.2022, the Petitioner has submitted that these works form part of the original scope of work of the project and as erection agency, M/s Unitech Machines Limited, has been admitted for insolvency proceedings in NCLT, the balance works are in order to ensure fire safety of the equipment for conveyors and associated equipment.

CW system-Makeup Water Civil

15. The Petitioner has claimed the total projected additional capital expenditure of Rs.3001.00 lakh during 2019-21 (Rs.1500.00 lakh in 2019-20 and Rs.500 lakh up to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.1001 lakh



from 1.7.2020 to 31.3.2021 under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations) towards 'CW System Makeup Water Civil.' In justification for the claim from 1.7.2020 to 31.3.2021, the Petitioner has submitted that these works form part of the original scope of work of the project, but due to encroachment by the locals, the work could not be completed in time.

Ash Handling System, Ash Water Recirculation System, and Ash disposal area development / Ash dyke

16. The Petitioner has claimed the total projected additional capital expenditure of Rs.8313.20 lakh during 201-22 [Rs.2247.20 lakh in 2019-20 and Rs.1108.00 lakh from 1.4.2020 to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.3550.30 lakh from 1.7.2020 to 31.3.2021 and Rs.1407.70 lakh in 2021-22] under Regulation 25 (1)(c) and Regulation 25(1)(g)] towards the 'Ash Handling System'. The Petitioner has also claimed the total projected additional capital expenditure of Rs.2104.00 lakh during 2019-21 (Rs.811.00 lakh in 2019-20 and Rs.100.00 lakh from 1.4.2020 to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.1193.00 lakh from 1.7.2020 to 31.3.2021 under Regulation 25(1)(c) and Regulation 25(1)(g) of the 2019 Tariff Regulations) towards 'Ash Water Recirculation System'. The Petitioner has also claimed the total projected additional capital expenditure of Rs. 10029.05 lakh during 2019-22 (Rs.407.00 lakh in 2019-20 and Rs.200.00 lakh from 1.4.2020 to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.1841.25 lakh from 1.7.2020 to 31.3.2021 and Rs.7580.80 lakh in 2021-22 under Regulation 25 (1)(c) and Regulation 25(1)(g) of the 2019 Tariff Regulations) towards 'Ash Disposal Area Development / Ash Dyke'. In justification for the claim from 1.4.2020 to 30.6.2020, the Petitioner has submitted that these works are within the original scope of works but deferred for execution after the COD and up to the cut-off date. Also, in justification for the claim from 1.7.2020 to 31.3.2022, the Petitioner has



submitted that the deferred works relating to the ash handling system are within the original scope of work and had been allowed by the Commission beyond the cut-off date of the generating station.

Initial Spares

17. The Petitioner has claimed the total projected additional capital expenditure of Rs. 8288.78 lakh during 2019-23 (Rs.4838.78 lakh in 2019-20 under Regulation 24(1)(c) of the 2019 Tariff Regulations and Rs.1350.00 lakh in 2020-21, Rs.1500.00 lakh in 2021-22 and Rs.600 lakh in 2022-23 under Regulation 24(1)(c) read with Regulation 76 of the 2019 Tariff Regulations) towards 'Initial spares. In justification for the claim for the years 2020-21 and 2022-23, the Petitioner has submitted that the configuration of the units of the generating station is unique and non-standard in nature, with 195 MW capacity each, which entails the production of non-standard spares, which do not form part of the regular assembly line manufacturing process. Accordingly, the Petitioner has submitted that the procurement of spares has taken additional time and the same is beyond the control of the Petitioner.

Main Plant Civil Package and Civil Infrastructure Package

18. The Petitioner has claimed the total projected additional capital expenditure of Rs. 1300 lakh during 2019-21 (Rs.975.00 lakh in 2019-20 and Rs.150.00 lakh up to 30.6.2020 in 2020-21 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.175.00 lakh from 1.7.2020 to 31.3.2021 under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations) towards the 'Main Plant Civil Package.' Further, the Petitioner has claimed the total projected additional capital expenditure of Rs. 4243 lakhs during 2019-21 (Rs.2000.00 lakh in 2019-20 and Rs.1000.00 lakh from 1.4.2020 to 30.6.2020 under Regulation 24(1)(b) of the 2019 Tariff Regulations and Rs.1243.00 lakh from 1.7.2020 to 31.3.2021 under Regulation 25(1) read with



Regulation 76 of the 2019 Tariff Regulations towards 'Civil Infrastructure Package.' In justification for the claim for the period from 1.7.2020 to 31.3.2021, the Petitioner has submitted that these works form part of the original scope of work and the Government of Bihar, by amending the Mining rules, had disallowed the mining of sand and metals across the State of Bihar which resulted in an unprecedented shortage of sand, thereby badly affecting the Civil works of the main plant area. It has also been submitted that due to heavy rains in May 2016 and September 2016, the works of the Main plant area were severely hampered, and as several main approach bridges were closed/restricted, the movements of the vehicles carrying the supplies and the construction materials, were either entirely cut-off or had taken a much longer time.

Zero Liquid Discharge Scheme

19. The Petitioner has claimed the total projected additional capital expenditure of Rs. 96 lakhs for the period from 1.7.2020 to 31.3.2021 towards the Zero Liquid Discharge (ZLD) scheme. In justification of the same, the Petitioner has submitted that this scheme is required to be implemented to achieve Water usage as per the MoEF&CC guidelines issued in December 2015. It has further submitted that the Bihar Pollution Control Board (BPSCB), vide their consent to operate letter dated 1.10.2018 had directed the Petitioner to achieve the ZLD.

Storm Water Package

20. The Petitioner has claimed the total projected additional capital expenditure of Rs.2250.00 lakh towards the Storm Water Package in 2021-22. In justification of the same, the Petitioner has submitted that the reasons for the additional time taken and the works deferred beyond the cut-off date shall be furnished later.



Additional submissions of the Petitioner

21. In response to the directions of the Commission vide ROP, the Petitioner, in its additional submissions vide affidavits dated 13.8.2021, 21.12.2021, and 14.9.2022 on CHP, MGR, and Storm Water Package and various other works, has stated the following:

CHP

(a) Abnormal Rainfall: Due to excess rainfall in May 2016 (72 %) and September 2016 (58 %), the water was logged, and the area was heavily submerged. The water logging was cleared with the installation of submersible/dewatering pumps; However, it took several days for the soil to dry up completely and allow the movement of heavy machinery. Thus, CHP civil and erection works were severely hampered, which resulted in 3 (three) a three-month delay in its commissioning. Further, the rainfall was excess during May 2017 (86%) and April 2018 (81%), with regard to the long period average, which caused additional delays in the civil and erection works. Accordingly, the total delay due to the excessive rainfall during May 2016, September 2016, May 2017, and April 2018 was a natural event that was beyond the control of the Petitioner.

(b) Heavy vehicle ban on Mahatma Gandhi Sethu: The Plant is located 90 km away from Patna, and the major construction material was routed through the Mahatma Gandhi Sethu (M.G Sethu) bridge on the river Ganga, which connects the plant with the main route of Patna. Due to the dilapidated condition of the Mahatma Gandhi Sethu bridge, which was 35 years old, its superstructure was to be demolished, and triangular steel girders were proposed to be erected for rehabilitation. In May 2018, the Chief Secretary of Bihar, along with the concerned District authorities, decided to ban the plying of vehicles carrying sand and stone aggregates through the said bridge and allowed their movement through either the newly constructed Ara-Chhapra bridge or the Rajendra Sethu bridge. However, these alternative routes are double in distance with respect to the original route. Further, the Rajendra Sethu bridge is a Rail-Cum-Road bridge for 2 km, and the Eastern Central Railway had restricted the movement of vehicles weighing above 16 tonnes, and the speed limit on Rajendra Sethu was to be within 20 km. Thus, the supply of sand, aggregates, iron rods, and other construction materials was adversely affected, which led to the delay in the execution of the various civil works and the consequential delay of 12 months in the execution of CHP work.

(c) Ban on mining of sand in Bihar: In compliance with the National Green Tribunal's (NGT) order dated 19.1.2016, the Govt. of Bihar vide Notification dated 9.2.2016 had completely banned the mining of sand in all parts of the State of Bihar until Environment Clearance (EC) was obtained. As the EC for sand mining was



given in a phased manner till 16.2.2017, the supply of sand was adversely affected, which led to the delay in the execution of the various civil works and the consequential delay in CHP work by approximately 365 days.

MGR

(a) As per the contract between M/s RITES and the agency, M/s SRC Co., the package – II work was to be completed in a span of eight (8) months. However, by the end of the contract period, the agency had executed only 13.5% of the work awarded and had abandoned the site. Further, it was found that the agency had misled M/s RITES and the Petitioner by giving false commitments to the completion of the package. Thus, the contract was terminated by M/s RITES on 21.8.2014. In view of this, the agency went for arbitration against RITES as well as the Petitioner, and the work remained at a standstill until RITES awarded the balance of works to M/s Hari Construction in May 2015 for execution by 11.11.2015. However, the timelines for the execution of Package-V were up to 1.10.2015, and Package-V works can be completed only after the completion of Package-II. Thus, the MGR works remained standstill for about 9 months, which was beyond the control of the Petitioner.

(b) Indian Railways has revised the RDSO guidelines vide notification dated 28.5.2010, and these were applicable on the Procurement of wagon tippler made on or after 1.12.2010. The Petitioner requested the Indian Railways for exemption from the revised guidelines on Wagon tippers by RDSO and awarded MGR works on 8.9.2011. However, the Indian Railways did not accept the request. Thus, it necessitated a change in the specifications of the Wagon tippler and its location. In January 2013, the Indian Railways approved the DPR on a conditional basis and approved the ESP (Engineering Scale Plan) in June 2014. Thus, the engineering of the Wagon tippler delayed by three (3) months and 33 months in receiving the approval from Indian Railways. Accordingly, the delay of about 36 months is due to a change in law and for compliance with the existing law, which was beyond the reasonable control of the Petitioner.

(c) The construction of the Wagon Tippler and Track Hopper was awarded to M/s Tecpro. However, as the contractor was not performing the work due to stressed financial conditions, the agency has gone Liquidation. Thus, the contract was terminated in December 2014, and the balance work of CHP was awarded to M/s Indure Pvt Limited in August 2015. The delay in the construction of the Wagon tippler led to a delay in the handing over of fronts to RITES.

Storm Water Package

(d) Area drainage study for Storm water package of the Project was carried out by CWPRS, Pune, in November 2012, and the pumping of the stormwater from the Plant near the northern boundary directly into the river Budhi Gandak (tributary to Gandak River) was finalized. The laying of the pipeline for the same involves around 13 acres of land beyond the Plant premises, which was essentially residential in nature and affected around 100 families along with the other associated cost



implications. Accordingly, it was decided to route the storm water package pipeline through the route of the make-up pipeline corridor.

(e) Initially, as the land for the make-up water corridor was envisaged to be acquired through the Bihar Underground Pipelines (Acquisition of Right of User in Land) Act, 2011, a proposal was submitted to the District authorities for land acquisition. The Govt. of Bihar had completed the land notification and its declaration from September 2012 to February 2013, and camps were organized for the disbursement of the land compensation in February 2013 and March 2013. However, most of the tenants boycotted the payment and raised demands of acquiring the land under the new Land Acquisition Act, 2013, which had to come into effect from 1.1.2014, and also demanded the compensation payment at the residential rate of Rs.20 lakh per Kattha. Subsequently, a meeting was held by the Additional Collector, Muzaffarpur, along with the District Land Acquisition Officer (DLAO) to sort out the issues, wherein the villagers reiterated that they would not give any consent for the acquisition of land under the ROU Act and insisted that land must be acquired under the Land Acquisition Act, i.e., the rate at Rs.20 Lakh per Kattha. In the meeting, the Petitioner apprehended that in case the mode of land acquisition is changed, it will halt the project completion, and the scheduled target will not be achieved. Thus, the meeting remained inconclusive.

(f) The first meeting of the task force was held on 12.7.2014, and it was decided that though the new Land Acquisition Act, 2013 has come into effect from 1.1.2014, as the Land Acquisition Policy under the subject Act, 2013 was yet to be come up, then the land cannot be acquired under this Act. It was also decided that as the rate for land notified under the ROU Act was already finalized, while the ROU Act provides for 20% compensation, the Petitioner may make payment at 100% of the rate to the land owners and purchase the land directly. Accordingly, meetings were held with the landowners on 8.8.2014 and 16.8.2014, wherein the landowners demanded Rs.20 lakh per Kattha, while as per the new Notification, the rate was only Rs.4.5 lakh per Kattha. In view of this, a meeting of the task force was held on 27.8.2014 and it was decided that as the exorbitant rate being demanded by the landowners, the land may be acquired under the new Land Acquisition Act.

(g) Accordingly, the Petitioner had taken up the matter with the District Administration, wherein the DLAO, Muzaffarpur, vide letter dated 11.12.2015, suggested to the Petitioner to opt for one of the two policies for land acquisition, i.e. (i) Perpetual Lease Policy, 2014 and Right to Fair Compensation and (ii) Bihar Transparency in Land Acquisition, Rehabilitation and Resettlement Manual, 2014. In response, the Petitioner vide letter dated 21.3.2016 opted for the acquisition of land under the Perpetual Lease Policy, 2014, wherein the District Administration was to provide the details of landowners and their consent, type, rate, etc., and the Petitioner was to acquire the land by disbursing the payments to willing landowners. As the land could not be acquired in time, the laying of make-up and stormwater pipeline got delayed, and the same is beyond the control of the Petitioner.



(h) Unit-I and Unit-II of the generating station achieved COD on 18.3.2017 and 1.7.2017, respectively, and in accordance with Regulation 3(14) of the 2019 Tariff Regulations, the cut-off date works out as 30.6.2020. However, the capitalization of certain works under the original scope was envisaged by 30.6.2020, which got spilled over to 2022-23/next tariff period on account of unforeseen circumstances, beyond the reasonable control of the Petitioner, despite regular monitoring and follow-up by the Petitioner. The following circumstances were unavoidable and uncontrollable:

- i. Closure of Mahatma Gandhi Setu and Rajendra Setu for plying of heavy vehicles.*
- ii. Excess rainfall in May 2016, September 2016, May 2017, and April 2018.*
- iii. Ban on mining of Sand in the State of Bihar.*
- iv. Covid-19 and lockdowns thereof; and*
- v. Land Acquisition issues with respect to the various packages.*

(i) The above factors disrupted the scheduled COD of the generating station and the original schedule of certain balance works. As the original schedule of the project was affected, the 'consequent and cascading' effect of the above uncontrollable circumstances heavily impacted the schedule of the non-COD related balance works and spilled over beyond the cut-off date. The majority of the above works are non-COD related balance works and pertain to the Main plant, Ash Handling System, Switchyard Civil, AWRS, MGR, Ash Dyke, Makeup water Civil and Stormwater package, etc.,

(j) Since it is not possible to complete all the packages by COD, to give adequate time to capitalise certain works, which, though necessary for the long-term operation of the generating units, but not mandatory at the time of declaration of COD, the cut-off date has been provided in the Tariff Regulations. As regards CHP, the excess rainfall in May 2017 and April 2018 led to the delay in the execution of civil and erection works 185 days, and the total delay due to the heavy rainfall in May 2016, September 2016, May 2017, and April 2018 is about 10 months. Further, the construction of the Wagon tippler is yet to be completed, and fronts are yet to be handed over to M/s RITES, and the same is expected by December 2022.

(k) As regards AHP works, the same was delayed as the original contractor, M/s Tecpro, was terminated on 30.8.2018 due to poor performance, and subsequently, the dry ash package was split into smaller packages and awarded separately for material and services. As regards AWRS works, AWRS is located 12 km away from the Plant and lies in the low-line flood area. Thus, waterlogging in the lagoon areas due to continuous and heavy rainfall over the period has majorly affected the works of AWRS. With regard to the Main plant civil works, off-site works Infra works, etc., due to not allowing sand mining, various civil fronts were affected, and the agency awarded with the construction works had failed to mobilise adequate resources at the site due to the sudden financial crisis at its end.

(l) As the MG Sethu bridge was not operationalized for heavy vehicles, the timely availability of the construction materials was affecting the balance works, which



were expected to be completed by December 2022. Also, the land acquisition issue impacted the Ash dyke works, Makeup water, and stormwater package. As regards the Storm water package and Makeup water civil works, out of the total private land of about 7.11 acres, only 6.31 acres was acquired, and the land award estimation for about 0.49 acres (inclusive of 0.31 acres for physical verification) was still pending with the District administration.

(m) The issues of land acquisition in the Ash pipeline corridor and Makeup water pipeline, hindrances in the progress of work at various fronts by the locals, Construction of FOB and platform on storm pipeline corridor land near the Pipra railway station by Railways, etc. were taken up with the District administration regularly. The prevailing land acquisition issue still delayed the storm water package, make-up water civil works, and ash dyke related works.

(n) COVID-19 pandemic and the restrictions thereof, from 25.3.2020 to 31.5.2020 for 68 days and the shortage of oxygen for the construction activities, affected the items and services of the balance work packages of the Main Plant / BOP Package (Electrical System, HVAC, FDPS, AHP System, AWRS, Switchyard CHP system), Coal Handling System, Township/colony civil works, associated works, site development works etc., by around 12 months, particularly, Wagon tippler. Otherwise, all these works were supposed to be completed by March 2021.

(o) The poor response of the contractors towards AHP, CHP, MGR, and Civil works packages, resulted in the delay of the commencement of these packages. Some excavation activities, particularly in the CHP area, are in progress and the required excavation and concreting to the ground level is expected to be completed prior to the monsoon. The majority of the affected works are (non-COD related) balance works pertaining to the Main Plant, CHP system, Coal Transportation System, AWRS, civil works, associated works, etc., and these works are currently in progress and are expected to be completed by March 2023.

(p) Under these circumstances, the Petitioner, after completing the critical works necessary, declared the commercial operation to provide sustainable power to the beneficiaries at the earliest without waiting for the completion of other civil works. Further, achieving the Plant Availability Factor (PAF) of 67.5%, 68%, and 66% in 2018-19, 2019-20, and 2020-21, respectively, indicates that all critical parameters were being met and both the units were capable of operating as per schedule, at their full capacity, despite the delay in other works. The spill over of these non-COD related balance works after the cut-off date will not yield any gain to the Petitioner, and also not detrimental to the beneficiaries, but on the other hand, protects the beneficiaries from front-loading of tariff. However, these non-critical works need to be capitalised. Further, the Petitioner has ensured that there is no cost overrun on account of the delay in the completion of these works.

(q) Thus, the Commission, in the exercise of its powers under Regulation 76 (power



to relax) and Regulation 77 (power to remove difficulties) of the 2019 Tariff Regulations, may extend the cut-off date of the generating station by 33 months, i.e., till 31.3.2023 and allow the delay in the completion of the above works.

(r) The scheduled time for the COD of Unit-I was 31 months, and an additional 3 months for Unit-II. As on the station COD, initial spares for Rs.6365.09 lakh have been capitalized, and further, the initial spares for an amount of Rs.407.98 lakh and Rs.173.47 lakh have been capitalized during 2017-18 and 2018-19, respectively. In addition, about Rs.5176.28 has been projected to be claimed from 1.4.2019 up to the cut-off date (30.6.2020), and Rs.3112 lakh has been projected beyond the cut-off date. In justification for the initial spares claimed beyond the cut-off date, though purchase orders were placed within the cut-off date, some initial spares were received within the cut-off date, and some items were received after the cut-off date due to normal lead time in delivery and Covid-19 pandemic. Further, the units were being non-standard, i.e., 195 MW and unique, which entails the production of non-standard spares which are not part of the regular assembly line manufacturing process.

22. The Petitioner, in response to the additional information sought vide ROP of the hearing dated 6.2.2024 as regards the reasons for the capitalization of MGR for the non-pit head plant, the head-wise expenditure incurred and liabilities recognized as on the COD of plant and as on cut-off date, DPR and Feasibility report, etc., has vide affidavit dated 10.4.2024 furnished the feasibility report and submitted the following:

- a. Due to typographical error, the Railway siding has been indicated under MGR and the same may be read as Railway Siding, which is part of the original scope of works and covered under RCE II.
- b. Additional capitalization is a continuous process and keeps arising from time to time for reliable sustained operation and for compliance with the existing law.
- c. The claim in 2019-20 is Rs.34390.31 lakh, and Rs.50986.85 lakh for the period 2020-24 form part of the original scope of works and in compliance with the existing law.
- d. The head-wise expenditure incurred, liability recognized, and on COD of the plant and as on the cut-off date are as under:

Sl. No.		As on COD of the generating station			As on the cut-off date		
		Expenditure incurred	Liability Recognized	Percentage of Works completed	Expenditure incurred	Liability Recognized	Percentage of Works completed
1	Total Land & Site Development	16629.28	669.97	Critical facilities related to	23107.05	1165.26	Major works completed,
2	Steam & Turbine Generator Island	126566.99	12861.62		134301.27	7186.01	
	BOP Mechanical						



Sl. No.		As on COD of the generating station			As on the cut-off date		
		Expenditure incurred	Liability Recognized	Percentage of Works completed	Expenditure incurred	Liability Recognized	Percentage of Works completed
3	CW system	754.89	84.96	COD completed, balance non -COD related works pending.	855.54	11.71	balance works related to CHP, Railway Siding / MGR, Ash handling, Ash dyke, Switchyard, Civil, Storm water, Township, etc. pending due to circumstances beyond control of the petitioner, submitted vide additional submissions dated 13.8.21 and 21.12.21 in the petition.
4	DM water Plant	1032.19	99.56		1061.84	123.19	
5	Cooling Towers	4268.99	694.86		4654.79	405.53	
6	Clarification plant/PT plant	2135.16	161.34		2229.13	165.73	
7	Ash Handling System	-	-		3382.99	0.00	
8	Ash Water Recirculation System	345.17	133.65		404.02	74.8	
9	Coal Handling Plant	1240.62	1061.97		1248.76	1222.76	
10	MGR	4064.56	119.2		4399.98	107.85	
11	Air Conditioning System	467.41	0.00		467.41	11.64	
12	Ventilation System	368.99	47.26		372.11	76.45	
13	Firefighting System	1307.07	245.56		1457.64	256.13	
14	HP/LP Piping (Station Piping pkg)	2380.49	266.17		2541.53	284.84	
	BOP Electrical						
15	Switch Yard Package	839.99	1284		1970.78	460.22	
16	Generator Bus Duct	434.97	69.9	475.23	33.51		
17	Power Transformers Package	3923.71	466.28	3948.35	608.86		
18	LT Transformer Package	569.58	48.39	572.79	46.39		
19	HT Switchgear Package	965.46	94.88	1042.7	18.64		
20	LT Switchgear Package	1210.69	-	1211.15	2.67		
21	Cables, Cable facilities & grounding	1073.23	21.33	1259.25	179.54		
22	Main Electrical Equipment	1745.97	603.17	2234.14	115		
23	Construction power package	575.35	5.47	583.04	3.22		
23a	BoP Others - Networking	76.95	6.79	77.11	6.79		
24	C & I Package	2848.89	398.87	3149.91	226.11		
25	Initial spares			1789.25	289.18		
	Civil Works						
26	Main Plant Civil Package	39283.98	497.04	41533.71	453.13		
27	Civil Infrastructure Package	5881.08	494.2	6246.77	128.51		
28	CW system-Makeup water civil			7756.2	402.44		
29	DM water Plant	628.91	51.04	833.07	58.74		
30	Township & Colony			97.94	43.71		
31	Ash disposal area development / Ash Dyke						

Reply of the Respondent Bihar Discoms

23. As regards the claims of the Petitioner for additional capital expenditure up to the cut-off date of the generating station, the Respondent Bihar Discoms, while pointing out that the Tariff Regulations notified under the Electricity Act, 2003, mandates the protection of consumer interest, has submitted that the Commission may consider the consumer interest in the implementation of the Tariff Regulations. They have also submitted that in terms of Regulation 24 of the 2019 Tariff Regulations, the Petitioner may be directed to furnish the justification/details for the deferment of the works beyond the COD of the generating station. The Respondents have stated that despite the additional capitalization of works (part of the original scope of works) projected after the COD of the generating station, the Petitioner has stated that these works were deferred for execution but has not furnished any justification for the delay in



execution of these works beyond the COD. Accordingly, they have submitted that these claims of the Petitioner may be disallowed. As regards the projected additional capital expenditure claimed beyond the cut-off date for works within the original scope, the Respondents have referred to Regulation 22 (1) of the 2019 Tariff Regulations (controllable factors) and submitted that the Petitioner had not provided any coherent justification for the works such as CHP, MGR, etc., and considering the justification provided by the Petitioner for the delay in the execution of the various other works, the factors attributable for delay are 'controllable' in terms of the said regulation and therefore, the claims of the generating station for additional capitalization beyond the COD of the generating station, may be disallowed. The Respondents, vide affidavit dated 9.5.2024, submitted that:

- (i) Regulation 25(1) of the 2019 Tariff Regulations provides for the additional capitalization on account of liabilities to meet award of arbitration or decree of the court, change in law or compliance of existing law, deferred works relating to ash pond or ash handling system, liabilities for works executed prior to the cut-off date, force majeure events, the raising of ash dyke as a part of ash disposal system, etc.
- (ii) In terms of Regulation 3(14) of the 2019 Tariff Regulations, the cut-off date is the last date of the calendar month, after thirty-six months from the COD of the project. The Petitioner has not offered any coherent justifications, quantum delay, delay analysis, measures taken to mitigate such delay, etc, for deferment of works beyond the cut-off date.
- (iii) The justification provided sans any rationale and factors mentioned for delay were controllable as per Regulation 22(1) of 2019 Tariff Regulations. The Petitioner has relied upon the order dated 29.4.2019 in Petition No. 74/GT/2017. However, an appeal has been filed (Appeal No. 54/2021) before APTEL against the said order. Otherwise also, the capital cost beyond the cut-off date shall be assessed thoroughly on merits and coherent justifications.
- (iv) The contention of the Petitioner that the additional capitalization is a continuous process and keeps arising from time to time for reliable, sustained operation defeats the very purpose of the cut-off date. Despite the direction of the Commission, the Petitioner has not furnished the percentage of works completed as on the COD and cut-off date. Thus, the Petitioner has not provided any relevant information for a prudence check of the claims beyond the cut-off date.
- (v) The factors claimed by the Petitioner for the delay are neither unavoidable nor



uncontrollable. In terms of Regulation 3(25), exceptionally adverse weather conditions, which are in excess of statistical measures for the last 100 years, qualify for force majeure. In contrast, the Petitioner has submitted the rainfall data for the last few years and claimed as force majeure, but the same cannot be qualified under it, and the delay claimed cannot be allowed.

- (vi) As regards the delay claimed towards the closure of MG Sethu and Rajendra Sethu bridges for plying of heavy vehicles, the pontoon bridge under MG Sethu remained open round the clock, and restrictions were not absolute or complete, and alternative routes were provided. The sand mining ban claimed pertains to the period prior to the COD of the units but not later. As the cut-off date is thirty-six months after the COD of Unit II, i.e., sufficient time to complete works, the delay claimed cannot be condoned and the additional capitalization beyond the cut-off date may not be allowed.
- (vii) As regards the delay claimed in the execution of MGR/Railway siding works, Regulation 22(1)(b) of the 2019 Tariff Regulations mentions that the delay in the execution of the project on account of contractor supplier or agency of the generating company as controllable factors, the contention of the Petitioner cannot be sustainable. Thus, the beneficiaries shall not be burdened for the inefficiency of the Petitioner in managing the contractor/sub-contractor. Further, the contention that the delay of 36 months on account of a change in law in relation to the specifications of the wagon tippler was already decided in an order dated 29.4.2019 in Petition No. 74/GT/2017.
- (viii) Generating stations were exempted from the COVID restrictions, and the Ministry of Power vide its various letters had directed for the continued operation of the generating stations, and all States were requested to issue necessary passes, permissions, etc, for the same.

Rejoinder of the Petitioner

24. The Petitioner, vide its rejoinder affidavit dated 15.5.2024 while reiterating its submissions made earlier, has clarified the following:

- a. In a few orders, the Commission, as well as APTEL, had considered the excess rainfall as a force majeure event. The pontoon bridge was not for heavy vehicles and was available for one-way traffic of light vehicles only. The ban on sand mining was lifted subject to certain mandatory compliances, and also, the lifting of the ban on mining after the COD will not automatically erase the delay caused by it earlier. The ban on sand mining affected the sand supply to the project for nearly one year. This resulted in the delay of the various civil works and CHP.
- b. Even though the generation activities were exempted from lockdowns announced during COVID-19 restrictions, the business was not as usual, and the manpower, disturbance in supply of spare parts of machinery, other inputs, etc, were adversely affected. There are many items to be supplied from within and outside the country, which were affected due to the lockdown. Though manufacturing picked up gradually during the unlocking phases, the



manufacturing units were flooded with orders and resulting in an increased lead time for the supply of equipment/material.

Analysis and Decision

25. The submissions of the parties have been considered. It is noticed that in March 2010, the Board of Petitioner approved Original Cost Estimates (OCE) for the instant generating station as Rs. 3154.33 Cr and in December 2016, approved Revised Cost Estimates (RCE) as Rs. 4778.65 Cr. As the COD of the generating station is 1.7.2017, the Petitioner, in terms of Regulation 3(14) of the 2019 Tariff Regulations, has considered the cut-off date of the generating station as 30.6.2020 and prayed for an extension of the cut-off date up to 31.3.2023. It is, however, observed that the SCOD and the actual COD of Unit-I are 12.10.2012 and 18.3.2017, respectively, i.e., a time overrun of 1618 days. Similarly, the SCOD and the actual COD of Unit-II are 12.1.2013 and 1.7.2017, respectively, i.e., a time overrun of 1631 days. It is noticed that the Commission vide its order dated 29.4.2019 had disallowed the time overrun of 670 days for each unit while allowing the time overrun of 948 days and 961 days respectively, for Unit-I and Unit-II. Since the COD of the generating station is 1.7.2017, the cut-off date of the generating station shall be governed by Regulation 3 (13) of 2014 Tariff Regulations, which defines the cut-off date as 31st March of the year closing two years after the COD of the plant and not in terms of Regulation 3(14) of the 2019 Tariff Regulations, as relied upon by the Petitioner. It is also noticed that in Petition No. 421/GT/2020 filed by the Petitioner for truing up of tariff of the generating station for the period from the COD of Unit-I till 31.3.2019, the Petitioner had claimed the cut-off date of the generating station as 31.3.2020 and the Commission vide its order 18.7.2023 had approved the same.

26. As regards the prayer of the Petitioner for the extension of the cut-off date of the



generating station up to 31.3.2023, we note that the cut-off date is for the completion of balance works and for the payment of liabilities within a specified period. As regards the exercise of the Power to Relax, the APTEL vide its judgment dated 25.3.2011 in Appeal No. 130/2009 (RGPPL v. CERC & anr) has observed the following:

“18.1 The Regulations of the Central Commission and the decision of the Tribunal and the Supreme Court confer the judicial discretion to the Central Commission to exercise power to relax in exceptional case. However, while exercising the power to relax there should be sufficient reason to justify the relaxation and non-exercise of discretion would cause hardship and injustice to a party or lead to unjust result. It has also to be established by the party that the circumstances are not created due to act of omission or commission attributable to the party claiming relaxation. Further, the reasons justifying relaxation have to be recorded in writing.”

27. Thus, the power to relax is to be exercised in exceptional cases, with sufficient reasons to be recorded in writing to justify the relaxation and that the circumstances have not been created due to the act of omission or commission attributable to the party claiming relaxation. Considering the above, the Commission, in terms of Regulation 3 (13) of 2014, Tariff Regulations, determines the cut-off date of the instant generating station as 31.3.2020 only and, as a consistent approach, is not inclined to extend the cut-off date; however, may consider the claims, part of the original scope of works, after the cut-off date on a case to case basis, after prudence check.

28. As regards the total projected additional capital expenditure for Rs. 85377.16 lakh claimed by the Petitioner, it is noticed that the additional capital expenditure of Rs.34390.31 lakh claimed is within the cut-off date (2019-20) and the additional capital expenditure of Rs.50986.85 lakh claimed is after the cut-off date (2020-23). With regard to the claims under 'MGR,' the Petitioner has clarified that the expenses under this head pertain to Railway siding. Since the projected additional capital expenditure claimed towards the works/items in 2019-20 is within the original scope of work and is within the cut-off date, the projected claims of the Petitioner are **allowed**, excluding



the expenses relating to Ash disposal area development/Ash dyke, wherein, no additional expenditure has been incurred as on the cut-off date.

29. As regards the additional capital expenditure claimed for the period 2020-23, the Petitioner has submitted that the works have spilled over beyond the cut-off date on account of the following factors and has accordingly prayed for allowing the said claims after condonation of the delay. The factors that contributed to the delay in the execution of the works, as submitted by the Petitioner, are as under:

- (i) Closure of Mahatma Gandhi Sethu Bridge and restrictions on the Rajendra Sethu Bridge for plying of heavy vehicles;
- (ii) Excess rainfall during May 2016, September 2016, May 2017, and April, 2018;
- (iii) Ban on mining of Sand in the State of Bihar;
- (iv) COVID-19 pandemic and lockdowns thereof;
- (v) Land Acquisition issues with respect to the various packages; and
- (vi) Delay in the approval for Wagon tippler.

30. We note that the submissions of the Petitioner for the delay on account of the above factors are general in nature and vague and are bereft of any clear and specific details, such as (i) the period of delay (i.e. the starting date and the ending date) (ii) the status of works-prior and post the delay factor, (iii) the impact of each factor on each item of work (iv) the part of the works which were impacted, etc. It is also noticed that delays on account of certain contractual issues with the vendors, sub-vendors, and agency, etc., have been claimed for condonation. It is also noticed that despite the specific direction of the Commission to the Petitioner to furnish the physical progress of works under each head, as on the COD and as on the cut-off date (31.3.2020), the Petitioner has submitted that all the critical works related to the COD were completed and the majority works related to the non-COD are pending, though the actual progress under each head had not been furnished. In the above background



and based on the submissions and the information/documents available on record, each factor for the delay has been examined below:

(a) Closure of Mahatma Gandhi Sethu Bridge and restrictions on the Rajendra Sethu Bridge for plying of heavy vehicles: It is noticed that though the MG Sethu Bridge was closed during May/June 2018 for renovation, the alternative route on Ara-Chhapra Bridge or the Rajendra Sethu Bridge was provided. However, the use of alternative routes increased the distance to be covered by 100%. Also, the Railways restricted the weight of the load in the heavy vehicles to 16 Tonnes and speed to 20 kmph on the 2 km stretch of the Rajendra Sethu bridge, which is a rail-cum-road bridge. In this regard, we note that the Petitioner had the Ara-Chhapra Bridge and Rajendra Sethu bridge (with speed restriction only for a stretch of 2 km), as an alternative route, and the weight restricted is also in the range of a normal weight allowed for the heavy vehicles, i.e., 12 – 20 MTs. As such, the Petitioner, in our view, after taking appropriate measures could have completed the work in time. Thus, the delay claimed on account of the closure of the MG Sethu Bridge, and the restrictions on the Rajendra Sethu Bridge cannot, therefore, be condoned. The claim of the Petitioner is not allowed on this count.

(b) Excess rainfall during May 2016, September 2016, May 2017, and April 2018: The Petitioner has claimed the delay on account of the abnormal rainfall during May 2016, September 2016, May 2017, and April 2018. As stated, the COD of the generating station is 1.7.2017, and the cut-off date is 31.3.2020. The rainfall period of May 2016, September 2016, and May 2017 had already subsumed within the COD of the generating station and did not have any impact on the works executed between the COD of the generating station till the cut-off date. In regard to April 2018, as per the information furnished by the Petitioner, it is noticed that the Petitioner has considered the percentage rainfall rather than the actual rainfall. Further, these rainfall months fall within the period 2014-19. In this regard, Regulation 3(25)(a) of the 2014 Tariff Regulations provide as under:

“a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or

However, as the actual rainfall during the rainfall months claimed is much lower



than the rainfall of 357 mm recorded during August 2014, the delay claimed on this count is not allowed/condoned.

(c) Ban on mining of Sand in the State of Bihar: In compliance with the National Green Tribunal (NGT) order dated 19.1.2016, the State Govt. of Bihar vide order dated 9.2.2016 had banned the mining of sand in all parts of the State of Bihar, until the Environment Clearance (EC) is obtained and ECs were given in a phased manner till 16.2.2017. Admittedly, since the issue was resolved prior to the COD of the generating station, the ban on sand mining does not have any impact on the works executed during the period from COD till the cut-off date. Accordingly, the delay claimed on this count is not allowed.

(d) COVID-19 pandemic and lockdown thereof: The Petitioner has claimed a delay of 68 days from 25.3.2020 to 31.5.2020 on account of the COVID -19 pandemic and the restrictions thereof, including the shortage of oxygen for construction activities. As stated, the cut-off date of the generating station is 31.3.2020. However, we note that the COVID-19 restrictions were imposed from 25.3.2020 onwards in 4 (four) phases till 31.5.2020, with exemptions to several essential services, including power generation. However, such exemption is for O & M of the plant but not for the construction or commissioning activities. In this backdrop, there would have been some impact on the completion of the few works on account of such restrictions. However, the Petitioner has not provided the actual progress of any item/works prior to these restrictions. In view of this, the delay claimed could not be assessed at this stage. However, we grant liberty to the Petitioner to approach at the time of true up along with relevant information and supporting documents.

(e) Land Acquisition issues with respect to the various packages: Due to changes in the Land Acquisition Act, the demand for higher compensation by the land owners, identifying the land owners, etc., laying of the make-up water and stormwater pipelines had got delayed. Similarly, the land acquisition has impacted the Ash dyke works. As the Petitioner had faced difficulties in acquiring the land or availing the land on perpetual lease, we hold that the issue was beyond the control of the Petitioner, and the delay for laying of make-up water and stormwater pipelines, ash dyke works, is allowed.



(f) Delay in approval for Wagon tippler: It is noticed that the Petitioner had sought exemption from the RDSO 2010 guidelines, which was not entertained by the Railways. Thus, the Petitioner was mandated to revise the DPR and the location Wagon tippler. However, it is noticed that the issue is prior to the COD of the generating station, and the Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017 had disallowed the delay claimed by the Petitioner on this count. In addition, the Petitioner has claimed the delay on account of the issues between M/s RITES and its contractor, and accordingly, the balance work was awarded to another vendor in May 2015 to complete the same by 11.11.2015. The Petitioner has also claimed that due to the non-performance of contractor M/s Tecpro in the execution of the Wagon tippler works, the contract was terminated in December 2014, and the balance work was awarded to M/s Indure Pvt Limited in August 2015. It is also noticed that till December 2022, the subject works have not been completed. As the delays due to the contractual issues are attributable to the Petitioner and are also prior to the COD of the generating station and do not impact the works executed between the COD and the cut-off date, the prayer for condonation of delay is not allowed.

(g) In addition to the above, the Petitioner has submitted that the AHP system was delayed, as the contract of the original contractor, M/s Tecpro was terminated on 30.8.2018 due to its poor performance and subsequently, the package was split and awarded separately for material and services. In this regard, it is observed that as per Regulation 22 (1) (b), the delay in execution of the project on account of the contractor or supplier or agency of the generating company is a controllable factor, and further, as per Regulation 21(5), for any delay attributable to the generating company or its contractor or supplier or agency, IDC and IEDC beyond SCOD may be disallowed after prudence check. Prima facie, there does not seem any ground for allowing such delay attributable to the Contractor of the generating company; however, the Petitioner is directed to submit during truing up the reasons for the delay efforts made by it to mitigate the same, along with a break up of cost clearly indicating the hard cost, IDC, and IEDC booked till SCOD and beyond SCOD till completion date of the AHP system.

(h) As regards the AWRS works, the Petitioner has submitted that AWRS is located 12 km away from the Plant and lies in the low-line flood area, which had



waterlogging in the lagoon areas due to continuous and heavy rainfall over the period; the Petitioner has not furnished any details such as the (i) period of delay claimed (ii) actual rainfall data during the respective months (iii) area's rainfall withstanding capability (iv) compliance with the CEA regulations on construction standards, etc., along with supporting documents. In this background, the claim of the Petitioner is not considered at this stage; however, it grants liberty to approach the Commission at the time of truing up along with relevant information and supporting documents.

(i) Further, as per the summary sheet of the additional capital expenditure claimed, it is noticed that while the projected additional capital expenditure for Ash Handling System and Main Electrical Equipment in 2020-21 is Rs.4508.30 lakh and Rs.150 lakh, respectively, the year-wise projected additional capital expenditure in 2020-21, for Ash Handling System is of Rs.4658.30 lakh and no additional capital expenditure has been claimed for the Main Electrical Equipment. The Petitioner has not furnished any reasons for such inconsistency in its claim/information. In addition to this, considering the head-wise financial progress furnished by the Petitioner, the following is noticed:

- a. Even though additional capitalization has been claimed after the COD to the cut-off date, few works, such as Ash handling system, make up water civil, Township & Colony, etc., were not started till the COD, and there was no progress in a few works such as the Ash water recirculation system, Civil infra package from the COD of the generating station till the cut-off date. The Petitioner has not furnished any reasons for the delay in the execution of these works.
- b. Though certain liabilities were recognized as on the COD of the generating station against a few heads such as the Steam & Turbine generator island, DM water plant, Cooling towers, Clarification plant, Ash water recirculation, CHP, Ventilation system, Firefighting system, HP / LP piping, Switchyard package, Generator bus duct, Power transformer package, LT transformer package, HT switchgear, Main electrical equipment, C&I package, Civil infrastructure package, etc, the discharges were continued to be held as liability beyond the cut-off date, for which no reasons have been furnished.
- c. No progress has been noticed with respect to the Ash disposal area/ash dyke till the cut-off date.
- d. As regards Zero Liquid Discharge, while the Petitioner has claimed the said



item for the reduced water consumption, reliance has been placed on the Bihar Pollution Control Board's order dated 1.10.2018, in support of the claim, which specifies that no effluent shall be discharged outside the plant. Thus, the claim of the Petitioner does not qualify for consideration as a change in law event.

- e. **Initial Spares:** In response to the directions of the Commission, the Petitioner vide affidavit dated 14.9.2022 has submitted that amounts of Rs.6365.09 lakh, Rs.407.98 lakh, and Rs.173.47 lakh have been capitalized as on the COD of the generating station and during the years 2017-18 and 2018-19 respectively. In addition, amounts for Rs.5176.28 lakh and Rs.3112 lakh have been envisaged to be capitalized from 1.4.2019 till the cut-off date (31.3.2020) and beyond, respectively. However, in contrast, the Petitioner vide affidavit dated 10.4.2024 has submitted that separately no initial spares were capitalized as on the COD of the generating station, but capitalized only those part of individual packages and as on the cut-off date for Rs.1789.25 lakh. However, the Petitioner has not furnished any reason for such inconsistencies in the information/documents submitted. Regulation 13 of the 2014 Tariff Regulations provides for initial spares at 4% of the Plant & Machinery cost, exclusive of IDC, IEDC, land, and Civil works. As these details have not been furnished by the Petitioner, the capital spares, claimed on a projection basis, have been allowed at this stage. This is, however, subject to truing-up.

31. Based on the above discussions, the projected additional capital expenditure allowed, is summarized below:

Sl. No.	Head of Work /Equipment	Projected additional capital expenditure allowed				
		2019-20	2020-21	2021-22	2022-23	2023-24
1	Total Land & Site Development	1004.00*	700.00*	-	-	-
2	Steam & Turbine Generator Island	288.00	-	-	-	-
	BOP Mechanical					
3	CW system	51.00	-	-	-	-
4	DM water Plant	24.00	-	-	-	-
5	Cooling Towers	7.00	-	-	-	-
6	Clarification plant/PT plant	403.70	-	-	-	-
7	Ash Handling System	2247.20	-	-	-	-
8	Ash Water Recirculation System	811.00	-	-	-	-
9	Coal Handling Plant	12109.00	-	-	-	-
10	MGR	681.00	-	-	-	-
11	Air Conditioning System	7.00	-	-	-	-
12	Ventilation System	29.00	-	-	-	-
13	Firefighting System	100.00	-	-	-	-
14	HP/LP Piping (Station Piping pkg)	157.00	-	-	-	-
15	Storm Water Package	-	-	2250.00	-	-
	BOP Electrical					



Sl. No.	Head of Work /Equipment	Projected additional capital expenditure allowed				
		2019-20	2020-21	2021-22	2022-23	2023-24
16	Switch Yard Package	620.00	-	-	-	-
17	Generator Bus Duct	23.00	-	-	-	-
18	Power Transformers Package	342.00	-	-	-	-
19	LT Transformer Package	63.20	-	-	-	-
20	HT Switchgear Package	16.75	-	-	-	-
21	LT Switchgear Package	115.50	-	-	-	-
22	Cables, Cable facilities & grounding	150.00	-	-	-	-
23	Main Electrical Equipment	414.00	-	-	-	-
24	Construction power package	13.18	-	-	-	-
25	ZLD Scheme	-	-	-	-	-
26	C & I Package	116.00	-	-	-	-
27	Initial spares	4838.78	1350.00	1,500.00	600.00	-
	Civil Works					
28	Main Plant Civil Package	975.00	-	-	-	-
29	Civil Infrastructure Package	2000.00	-	-	-	-
30	CW system-Makeup water civil	1500.00	1501.00	-	-	-
31	DM water Plant	115.00	-	-	-	-
32	Township & Colony	4762.00	-	-	-	-
33	Ash disposal area development / Ash dyke	-	2041.25	7,580.80	-	-
	Total allowed (A)	33983.31	5592.25	11330.80	600.00	0.00
	Total claimed (B)	34390.31	29355.35	21031.50	600.00	0.00

**The Petitioner shall furnish the details of payment made towards enhanced compensation, at the time of truing up, along with reasons thereof.*

32. The Petitioner is directed to submit the Package-wise details, the scheduled start and scheduled completion, the actual start and actual completion, the awarded cost, and the actual executed cost, the factors along with the duration, which affected the progress of works, the list of factors claimed for the delay along with its duration, the progress of works as on the 31st March of each year, the details of the LD recovered and the BG withheld, etc., at the time of truing-up of tariff, for consideration in accordance with the relevant regulations. In addition, the Petitioner shall furnish all details addressing the observations made above along with the P&M cost, Land cost, IDC, IEDC, and Civil works cost as on 31.3.2019 and 31.3.2020 for consideration in accordance with law.

Emission Control System

33. The Petitioner submitted that it is in the process of installing the Emission Control System in terms of the revised emission standards notified by the MoEF&CC vide its



notification dated 7.12.2015. It has also been submitted that the completion of the said scheme will affect the APC, Heat Rate, O&M expenses etc., of the generating station and also availability of the units/station due to shutdown of the units for installation of the ECS. The Petitioner has further submitted that a separate Petition will be filed for the same, and consequently, the tariff approved in the present petition may undergo change. The Respondent, BSPHCL, has submitted that the Petitioner had filed Petition No. 56/MP/2021, wherein the Respondent has filed its reply. It has also stated that the Petitioner may be directed to furnish the relevant details in the present petition for prudence check.

34. The matter has been examined. It is noticed that the Petitioner had filed Petition No.56/MP/2021 seeking the in-principle approval for the installation of ECS, and the Commission vide its order dated 17.7.2023 disposed of the same, as under:

'6. We have considered the submissions of the Petitioner. As submitted by the Petitioner, no purpose would be served by keeping the instant petition on hold as the Petitioner is yet to start the process of retendering for the installation of WFGD. Accordingly, we dispose of the petition with a liberty to the Petitioner to claim the cost of installation of CM at the time of truing up the tariff of 2019-24 of the generating station and to file a fresh petition for approval of the cost of the installation of WFGD after completion of the tendering process.

7. The Petitioner is directed to share the proposal for installation of ECS containing the details of the proposed technology, scope of work, the cost, indicative impact on the tariff and all other relevant information with the beneficiaries as required under Regulations 29(1) and Regulation 29(2) of the 2019 Tariff Regulations.'

35. In line with the above order, the Petitioner is directed to submit the relevant details at the time of the truing-up of the tariff of the generating station for the period 2019-24 for consideration in terms of the relevant regulations.

Capital cost allowed for the period 2019-24

36. Based on the above, the capital cost allowed for the period 2019-24 is as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	328815.38	362798.69	368390.94	379721.74	380321.74
Add: Additional capital expenditure	33983.31	5592.25	11330.80	600.00	0.00



Closing capital cost	362798.69	368390.94	379721.74	380321.74	380321.74
Average capital cost	345807.03	365594.81	374056.34	380021.74	380321.74

Debt-Equity Ratio

37. Regulation 18 of the 2019 Tariff Regulations provides as under:

“18. Debt-Equity Ratio: (1) For a new project, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

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

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

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

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

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds 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 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:

Provided that in case of generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 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.

38. The gross normative loan and equity of the generating station as of 31.3.2019,



as approved by order dated 18.7.2023 in Petition No. 421/GT/2020, is Rs.230170.76 lakh (i.e., 70.00% of the admitted capital cost as on 31.3.2019) and Rs.98644.61 lakh (i.e., 30.00% of the admitted capital cost as on 31.3.2019) respectively. Accordingly, in terms of Regulation 18(3) of the 2019 Tariff Regulations, the gross normative loan and equity to be considered as on 1.4.2019 works out to Rs.230170.77 lakh and Rs.98644.61 lakh, respectively. Further, the projected additional capital expenditure approved above has been allocated to debt and equity in the debt-to-equity ratio of 70:30.

Return on Equity

39. Regulation 30 of the 2019 Tariff Regulations provides as under:

“30. Return on Equity:

(1) Return on equity shall be computed in rupee terms on the equity base determined in accordance with Regulation 18 of these regulations.

(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 return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

(i) In case of a new project the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

(ii) in case of existing generating station as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

(iii) in case of a thermal generating station with effect from 1.4.2020:

(a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:



Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

40. Regulation 31 of the 2019 Tariff Regulations provides as under:

“31. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission as the case may be) shall be excluded 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) @ 21.55% including surcharge and cess:

Rate of return on equity = 15.50/(1-0.2155) = 19.758%

(ii) In case of a 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 2019-20 is Rs 1000 crore;

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

(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;

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

(2) 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 2019-24 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 as the case may be on year to year basis.”

41. The Petitioner has claimed the Return on Equity (ROE), considering the base



rate of 15.50% and the effective tax rate of 21.5488% (i.e., MAT rate of 18.5% + Surcharge of 12% + HEC of 4%, as applicable for 2018-19) for the opening equity as on 1.4.2019 and the projected additional capital expenditure claimed under the original scope of work, change in law etc., for the period 2019-24. However, considering the MAT rate applicable to the Petitioner for the period 2019-24, the effective tax rate of 17.472% has been considered for the purpose of grossing the base rate of 15.50% to arrive at the allowable rate of ROE. Accordingly, ROE has been worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Equity- Opening	98644.61	108839.61	110517.28	113916.52	114096.52
Add: Addition of Equity due to additional capital expenditure	10194.99	1677.68	3399.24	180.00	0.00
Normative Equity – Closing	108839.61	110517.28	113916.52	114096.52	114096.52
Average Normative Equity	103742.11	109678.44	112216.90	114006.52	114096.52
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	17.4720%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax)	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity (Pre-tax) - (annualised)	19484.84	20599.81	21076.58	21412.70	21429.61

Interest on loan

42. Regulation 32 of the 2019 Tariff Regulations provides as under:

“32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.

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



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

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

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

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

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

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

- i) The gross normative loan, cumulative repayment, and net opening normative loan of Rs.230170.76 lakh, Rs.28485.77 lakh, and Rs.201684.99 lakh, respectively, as on 31.3.2019, as considered in an order dated 18.7.2023 in Petition No. 421/GT/2020, has been retained as on 1.4.2019.
- ii) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- iii) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2019-24.
- iv) The weighted average rate of interest (WAROI), as claimed by the Petitioner has been retained for the purpose of tariff.

44. The necessary calculation of interest of loan allowed is as under:

		(Rs. in lakh)				
		2019-20	2020-21	2021-22	2022-23	2023-24
A	Gross opening loan	230170.76	253959.08	257873.66	265805.22	266225.22
B	Cumulative repayment of loan upto previous year	28485.77	44669.54	61779.38	79285.21	97070.23
C	Net Loan Opening (A-B)	201684.99	209289.54	196094.28	186520.00	169154.99
D	Addition due to additional capital expenditure	23788.32	3914.58	7931.56	420.00	0.00
E	Repayment of loan during the year	16183.77	17109.84	17505.84	17785.02	17799.06
F	Repayment adjustment on account of de-capitalisation	0.00	0.00	0.00	0.00	0.00
G	Net Repayment of loan during the year (E-F)	16183.77	17109.84	17505.84	17785.02	17799.06
H	Net Loan Closing (C+D-G)	209289.54	196094.28	186520.00	169154.99	151355.93
I	Average Loan [(C+H)/2]	205487.27	202691.91	191307.14	177837.49	160255.46
J	WAROI	8.9977%	8.9843%	8.9843%	8.9843%	8.9843%
K	Interest on Loan (I x J)	18489.13	18210.45	17187.61	15977.45	14397.83

Depreciation

45. Regulation 33 of the 2019 Tariff Regulations provides as under:



“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. 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:

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 a 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

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

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or 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-I 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 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

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

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted



by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”

46. Cumulative depreciation amounting to Rs.28485.77 lakh as on 31.3.2019, as considered in the order dated 18.7.2023 in Petition No. 421/GT/2020, has been retained as on 1.4.2019. Considering that the elapsed life of the generating station, from the effective station COD of the generating station (i.e., 9.5.2017) is less than 12 years, depreciation has been calculated by considering the weighted average rate of depreciation (WAROD), as claimed by the Petitioner. Necessary calculations in support of depreciation are as under:

		<i>(Rs. in lakh)</i>				
		2019-20	2020-21	2021-22	2022-23	2023-24
A	Average Capital cost	345807.03	365594.81	374056.34	380021.74	380321.74
B	Value of freehold land included above	21010.93	21010.93	21010.93	21010.93	21010.93
C	Depreciable value [(A-B) x 0.9]	292316.49	310125.49	317740.87	323109.73	323379.73
D	Remaining depreciable value at the beginning of the year (C – Cumulative depreciation at the end of the preceding period)	263830.72	265455.95	255961.49	243824.51	226309.50
E	Balance useful life at the beginning of the year	23.25	22.25	21.25	20.25	19.25
F	WAROD	4.6800%	4.6800%	4.6800%	4.6800%	4.6800%
G	Depreciation during the year	16183.77	17109.84	17505.84	17785.02	17799.06
H	Cumulative depreciation at the end (Cumulative depreciation at the end of the preceding period + Depreciation during the period)	44669.54	61779.38	79285.21	97070.23	114869.29
I	Less: Cumulative Depreciation reduction due to decapitalization	0.00	0.00	0.00	0.00	0.00
J	Cumulative Depreciation after adjustment due to decapitalization (at the end of the period)	44669.54	61779.38	79285.21	97070.23	114869.29

O&M Expenses

47. Regulation 35(1)(1) of the 2019 Tariff Regulations provides for the following O &



M expenses:

(Rs. in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
32.96	34.12	35.31	36.56	37.84

48. The Petitioner has claimed the normative O&M expenses in terms of the above regulation as under:

(Rs. in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
12854.40	13306.80	13770.90	14258.40	14757.60

49. As the normative O&M expenses claimed by the Petitioner are in terms of Regulation 35(1)(1) of the 2019 Tariff Regulations, the claim is allowed.

Water Charges

50. Regulation 35(1)(6) of the 2019 Tariff Regulations provides for the claim towards water charges, security expenses, and capital spares as under:

“35(1)(6) The Water, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately and after prudence check:

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 and considering the norms of specific water consumption notified by the Ministry of Environment, Forest and Climate Change. The details regarding the same shall be furnished along with the petition:

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;

Provided also 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 as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

51. The Petitioner has submitted that the plant has a closed cycle cooling water system with Induced Draft Cooling Towers and had an allocation of 95 cusec water from two sources, i.e., 50 cusecs from the Tirhut Canal and 45 cusecs from the Burhi Gandak River. It has been submitted that the consumption of water is 8907.72 lakh gallons, and the rate of water charges in 2018-19 is Rs.18 / 1000 gallons. Accordingly,



the water charges claimed on a projection basis are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
440.99	440.99	440.99	440.99	440.99

52. Respondent, BSPHCL has submitted that in terms of the first proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations, the Petitioner is required to furnish the details of the water consumption depending upon the type of plant and type of cooling system, along with the basis of the quantity/volume of water claimed and the cost thereof. The Petitioner, in its rejoinder, has submitted that such details shall be furnished at the time of truing up of the tariff.

53. We have examined the matter. It is noticed that MoEF&CC, vide notification dated 7.12.2015, has specified the water consumption norms as 3.5 m³/ MWhr for the existing plants and 2.5 m³/ MWhr for the Plants commissioned after 1.1.2017. Subsequently, the MoEF&CC, vide its notification dated 28.6.2018, revised the water consumption norms for the Plants commissioned after 1.1.2017 as 3.0 m³/ MWhr. Accordingly, considering the MoEF&CC norms in terms of the 2019 Tariff Regulations, the rate of Rs.18/1000 gallon, as claimed by the Petitioner and the estimated annual generation as per NAPAF of 85%, the water charges allowed on a projection basis, is as under:

<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24
Water charges claimed	440.99	440.99	440.99	440.99	440.99
Water charges allowed	415.39	414.26	414.26	414.26	415.39

54. The Petitioner is directed to submit the year-wise actual generation, actual water consumption for plant and other plant, the actual water charges paid along with the bills, and the apportionment of the water charges to Stages-I and II, at the time of truing- up of tariff.



Security Expenses

55. The Petitioner has also claimed the following security expenses, on a projection basis and submitted that the claim is subject to retrospective adjustment based on the actuals at the time of truing up of tariff:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1036.96	1036.96	1036.96	1036.96	1036.96

56. Respondent, BSPHCL has submitted that in terms of the second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations, the Petitioner is required to furnish the assessment of security requirement and estimated expenses but has not furnished the same. The Petitioner, in its rejoinder, has clarified that the claim is on an estimation basis and the same is subject to truing-up.

57. We have examined the matter. The second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides that the Petitioner is to submit the assessment of the security requirement, estimated expenses, etc, but has not furnished any such information. As the security charges claimed are subject to prudence check of the actual expenses incurred, at the time of truing-up of tariff, the claim of the Petitioner on a projection basis is allowed. The Petitioner shall furnish the security assessment report, manpower deployed, auditor-certified actual expenditure incurred, expenses incurred for plant and other plant, expenses incurred for CISF and other than CISF etc, along with bills and supporting documents, at the time of truing-up of tariff.

Capital Spares

58. The Petitioner has not claimed any capital spares in the present petition but has submitted that the same shall be claimed based on the actual consumption of spares during the period 2019-24 at the time of truing-up of tariff, in terms of the last proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. Accordingly, the Petitioner is



allowed to claim the year-wise capital spares along with the list, quantity, cost, justification, and whether it forms part of the capital cost with regard to each item at the time of truing-up of tariff.

59. Based on the above, the total O&M expenses, including water charges and security expenses, as claimed by the Petitioner and allowed to the generating station, are summarised below:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	12854.40	13306.80	13770.90	14258.40	14757.60
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	12854.40	13306.80	13770.90	14258.40	14757.60
Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (c)	440.99	440.99	440.99	440.99	440.99
Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)	415.39	414.26	414.26	414.26	415.39
Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)	1036.96	1036.96	1036.96	1036.96	1036.96
Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)	1036.96	1036.96	1036.96	1036.96	1036.96
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)	14332.35	14784.75	15248.85	15736.35	16235.55
Total O&M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)	14306.75	14758.02	15222.12	15709.62	16209.95

Additional expenditure towards Fly Ash transportation

60. The Petitioner has submitted that the Ministry of Environment, Forest & Climate Change (MOEF&CC), Government of India, vide notification 25.1.2016, has prescribed to bear the Ash transportation charges by generating companies. The Petitioner has submitted that it had filed Petition No. 172/MP/2016 before this Commission seeking the reimbursement of the additional expenditure for fly ash transportation directly from the beneficiaries, as the same was a statutory expense, wherein the Commission, vide order dated 5.11.2018, had acknowledged the said notification as a change in law event and had decided that the expenses incurred is to



be reimbursed, subject to award of contract through competitive bidding in a transparent manner or alternatively based on the scheduled rate notified by the respective States and maintaining a separate account for ash sale, etc, and also granted liberty to the Petitioner to approach the Commission, at the time of truing-up of tariff for further consideration. The Petitioner has stated that these charges are recurring in nature and in case these expenses are allowed to be recovered at the time of truing of tariff for the period 2019-24, the beneficiaries will have the additional liability in terms of interest. Thus, the Petitioner, in order to avoid the same, has sought to recover such charges after adjusting the revenue recovered at the end of each quarter, subject to truing-up exercise. Respondent, BSPHCL has submitted that the Commission, vide its order dated 5.11.2018 in Petition No. 172/MP/2016, had mandated the Petitioner to submit certain details, including bidding documents, scheduled rate, audited ash transportation expenses, revenue generated, etc., for prudence check, but the Petitioner has not furnished the same. The Petitioner vide affidavit dated 30.6.2022 has reiterated its submissions and also submitted that the notification dated 25.1.2016 provided for bearing the cost of transportation qua the notified industries, whereas the notification dated 31.12.2021 provided for additional transportation cost to deliver the fly ash to industries/users such as road and flyover embankments, shoreline protection structures in coastal districts, dams within 300 kms from the TPPs. Accordingly, on a projection basis, the details of ash generation, ash utilization in road projects, ash utilization in ash product manufacturing, ash utilization in other avenues, ash transportation, expenses, etc., in 2022-23 and 2023-24 submitted by the Petitioner, are as under:



	Ash generation (LMT)	Utilization in road (LMT)	Utilization in ash products (LMT)	Utilization in other avenues (LMT)	Total utilization (LMT)	Disposal Cost (Rs. in lakh)
2022-23	8.0	9.0	0.55	1.0	10.55	10000
2023-24	8.0	8.5	0.75	1.0	10.25	10000

61. We have examined the matter. It is noticed that the present station is a new plant with COD as 1.7.2017. The Petitioner has also claimed expenses towards ash dyke / pond as part of the original scope of works. In addition, the Petitioner had filed Petition No. 205/MP/2021 for the recovery of ash transportation charges, and the Commission vide its order dated 28.10.2022 had allowed the Ash transportation expenses incurred by the Petitioner for the period 2019-22, in six equal monthly instalments and recover the 90% of subject expenses through supplementary bills during 2022-24. Accordingly, the Petitioner is allowed to recover the ash transportation expenses in accordance with the decision in Petition No. 205/MP/2021, pertaining to the period 2019-22 in 6 (six) equal monthly interest-free instalments and to recover the 90% of subject expenses through supplementary bills during the period 2022-24. The Petitioner is also directed to submit the auditor-certified information such as year-wise actual generation, the quantity of ash generated, the quantity of ash utilised locally, ash utilized for ash dyke raising, ash utilized for ash products, the quantity of ash transported and distance thereof, ash transportation charges incurred, scheduled rate, bidding, success bidders, bills, raisings completed for ash dyke, the height of each raising, the capacity of ash dyke, ash pond, and lagoon along with expenses incurred for each such item, existing ash, etc., at the time of truing up of tariff.

Operational Norms

62. The Petitioner has claimed the following norms of operation for the period 2019-24:



Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kCal/ kwh)	2512.81
Auxiliary Power Consumption (%)	9.00
Specific Oil Consumption (ml/kwh)	0.50

(a) Normative Annual Plant Availability Factor (NAPAF)

63. Regulation 49(A) of the 2019 Tariff Regulations provides as under:

“(A) Normative Annual Plant Availability Factor (NAPAF)

(a) For all thermal generating stations, except those covered under clauses (b), (c), (d) & (e) - 85%;
xxx.”

64. As the Petitioner has claimed NAPAF of 85% in terms of Regulation 49(A)(a) of the 2019 Tariff Regulations, the same is allowed.

(b) Specific Oil Consumption

65. Regulation 49(D)(a) of 2019 Tariff Regulations provides as under:

“(D) Secondary Fuel Oil Consumption:

(a) For Coal-based generating stations other than at (c) below: 0.50 ml/kWh”

66. As the Petitioner has claimed the secondary fuel oil consumption of 0.50 ml/kWh, in terms of Regulation 49(D)(a) of the 2019 Tariff Regulations, the same is allowed.

(c) Auxiliary Power Consumption

67. Regulation 49(E)(a) of 2019 Tariff Regulations provides as under:

“(E) Auxiliary Energy Consumption

(a) For Coal-based generating stations except at (b) below:

S. No.	Generating Station	With Natural Draft cooling tower or without cooling tower
(i)	200 MW series	8.50%
(ii)	300 MW and above	
	Steam driven boiler feed pumps	5.75%
	Electrically driven boiler feed pumps	8.00%

Provided that for thermal generating stations with induced draft cooling towers and where tube type coal mill is used, the norms shall be further increased by 0.5% and 0.8%, respectively:

Provided further that Additional Auxiliary Energy Consumption as follows shall be allowed for plants with Dry Cooling Systems:

Type of Dry Cooling System	(% of gross generation)
Direct cooling air cooled condensers with mechanical draft fans	1.0%
Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower	0.5%

Note: The auxiliary energy consumption for the unit capacity of less than 200 MW sets shall be dealt on case-to-case basis.”



68. The Petitioner has submitted that the plant has IDCT-based cooling system and is entitled to an additional 0.5% auxiliary power consumption, over and above the norm of 8.5%. As the claim for auxiliary energy consumption of 9.00% is in terms of Regulation 49(E)(a) of the 2019 Tariff Regulations, the same is allowed.

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

69. Regulation 49(C)(a)(i) of 2019 Tariff Regulations provides as under:

“49 (C) Gross Station Heat Rate:

(a) Existing Thermal Generating Stations

(i) For existing Coal-based Thermal Generating Stations, other than those covered under clauses (ii) and (iii) below:

200/210/250 MW Sets	500 MW Sets (Sub-critical)
2430 kCal/kWh	2390k Cal/kWh

(b) Thermal Generating Stations achieving COD on or after 1.4.2009

*(i) For Coal-based and lignite-fired Thermal Generating Stations:
1.05 X Design Heat Rate (kCal/kWh)*

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that the design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:

....XXX

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design heat rate of the unit of the nearest class shall be taken:

...XXX

Provided also that where the boiler efficiency is lower than 86 % for Subbituminous Indian coal and 89 % for bituminous imported coal, the same shall be considered as 86 % and 89 % for Sub-bituminous Indian coal and bituminous imported coal respectively, for computation of station heat rate.

...XXX

Provided also that in case of coal based generating station if one or more generating units were declared under commercial operation prior to 1.4.2019, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2019 shall be lowest of the heat rate norms considered by the Commission during tariff period 2014-19 or those arrived at by above methodology or the norms as per the sub-clause (C)(a)(i) of this Regulation.”

70. The Petitioner has claimed the SHR of 2512.81 kCal / kWh and submitted that the generating station was envisaged during the period 2004-09, and therefore, the equipment, including SG and TG specifications for tendering/award was stipulated



considering the boiler efficiency and turbine heat rate as specified in the Tariff Regulations prevalent at that time and the same equipment's were ordered. Accordingly, the Petitioner has submitted that it was not possible for the Petitioner to specify the efficiency parameters at the time of finalizing the contracts, as per the efficiency parameters specified under the 2019 Tariff Regulations, which are more stringent. It has also pointed out that the Commission, vide its order dated 20.2.2014 in Petition No.160/GT/2012 had considered the design parameters for the computation of SHR with appropriate operating margin. The Petitioner has added that a more stringent unit heat rate with specified efficiency parameters would have increased the capital cost, and the benefit of the lower capital cost, due to lower efficiency parameters, had already been passed onto the beneficiaries in terms of capital cost. The Petitioner has submitted that in case the SHR with 86% boiler is allowed, instead of the actual efficiency, there will be no operating margin, as the boiler efficiency is largely the function of coal quality.

71. Respondent, BSPHCL has submitted that the prayer of the Petitioner to consider the boiler efficiency as 82.36%, turbine cycle heat rate as 1971, and the operating margin of 5% is in violation of Regulation 49(C)(b), and the Commission may allow the SHR as per the ceiling limits of boiler efficiency and the maximum turbine heat rate provided under Regulation 49(C)(b) of the 2019 Tariff Regulations. The Petitioner vide affidavit dated 8.4.2022 has reiterated its submissions made earlier and has also submitted that the regulatory change for the first time had come in terms of the 2009 Tariff Regulations and continued under the 2014 and the 2019 Tariff Regulations. It has also been submitted that the conceptualization and design of the project were done during the period 2004-09 based on the 2004 Tariff Regulations (i.e., SHR of 2500 kCal / kWh for 200 MW class of machines and the main plant package was



awarded in March 2010) and thus, while tendering/awarding the contract, it could not have considered the boiler efficiency and turbine heat rate as prescribed in the 2014 Tariff Regulations. Accordingly, the Petitioner has submitted that it is not able to achieve 2375 kCal / kWh, and the ECR billed and recovered is insufficient. It has further submitted that the actual SHR is in the range of 2558 to 2734 kCal / kWh and has incurred a total loss of about Rs.303.76 crore during the period from 2017-18 to 2021-22. The Petitioner has stated that as per the contract performance guarantee, the Boiler Efficiency and Turbine Heat Rate at 100% TMCR are 82.07% and 1971 kCal / kWhr, respectively. However, it has been submitted that as per the PG test conducted in compliance with the approved procedure of the relevant codes and standards, along with corrections to evaluated reports, the boiler efficiency is 82.7% and 82.99%, and the Turbine Heat Rate is 1964 kCal / kWhr and 1974 kcal / kWhr respectively, for Units-I and II. Accordingly, the Petitioner has prayed that the Commission may, in the exercise of its powers under Regulation 76 (power to relax) of the 2019 Tariff Regulations, allow the gross SHR by considering the boiler efficiency as 82.36 % and the Turbine Heat Rate of 1971 kcal / kWhr along with an operating margin of 5%. The Petitioner has also submitted that as the Commission being a regulator, it can modify, improve, and change the operating parameters, based on the data and experience, as the norms provided are unachievable, not due to the inefficiency of the generator, but for the reasons beyond its control. Accordingly, the Petitioner has sought the relaxation in the norms as the same is a balanced approach and satisfies the tenants of section 61 of the Electricity Act, 2003.

72. The matter has been examined. It is noticed that the Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017 observed that as per investment approval dated 6.3.2010, the SCOD for Unit-I is 31 months from the date of the main plant



award and 3 months thereafter, for Unit-II and the Main Plant package (Boiler Turbine and Generator) was awarded to M/s BHEL on 12.3.2010. Thus, the SCOD of Units-I and II are 12.10.2012 and 12.1.2013, respectively. The 2009 Tariff Regulations were notified by the Commission during January, 2009. Against this backdrop, the contention of the Petitioner that the plant was envisaged during the period 2004-09 and that the specifications for tender/award were as per the 2004 Tariff Regulations is not acceptable. The reliance placed by the Petitioner on the Commission's order dated 20.2.2014 stating that the actual boiler efficiency and turbine heat rate have been considered is misplaced, as it is observed that the said order pertains to the 2009 Tariff Regulations and the EPC contract for the said plant was awarded in 2006, much prior to the 2009 Tariff Regulations. As regards the submissions of the Petitioner regarding the loss in the recovery of ECR, we note that the auxiliary power consumption, as well as the specific oil consumption for the generating station, are higher than the norms allowed under the Tariff Regulations and the PLF is also much lower than the normative PLF of 85%. As regards SHR, the Petitioner has submitted that though the guaranteed minimum Boiler Efficiency and the maximum Turbine Heat Rate are 82.07 % and 1971 kCal / kWhr respectively, as per the PG test, the minimum boiler efficiency is 82.7% and 82.99% and the maximum Turbine Heat Rate is 1964 kCal / kWhr and 1974 kcal / kWhr respectively, for Units-I and II. Further, it is noticed that while the normative SHR is determined at the designated coal, the actual SHR claimed by the Petitioner depends on various parameters considered in arriving at such value, including the quantity and quality of coal, equilibrated moisture, hydrogen content in coal, actual plant load factor, number of start and stops, point of a sample taken for the measurement of GCV of coal, method of computation, etc., However, the Petitioner has not furnished such information, and even otherwise, the responsibility of procuring



designated coal lies with the Petitioner. In addition, the norms provided being minimum boiler efficiency and maximum turbine heat rate, there is scope for better operating parameters, particularly SHR, than the norms specified. As regards the claim of the Petitioner that the lower SHR had resulted in a lower capital cost, it is noticed that the capital cost of the plant is higher than the plants with a similar capacity, and also the minimum boiler efficiency and maximum turbine heat rate under the 2009 Tariff Regulations were recommended by the CEA, after extensive stakeholder consultations, assessing the data of the past period and after a detailed techno-economic analysis of the useful life of the plants. Hence, the submission of the Petitioner has no merit and deserves no consideration. Even otherwise, we note that the investment approval, as well as the boiler and turbine packages, were awarded after the 2009 Tariff Regulations were notified, which specified the minimum boiler efficiency and maximum turbine heat rate. In view of the above discussion, we find no reason to entertain the prayer of the Petitioner to grant the relief in the exercise of the powers under Regulation 76 or Regulation 77 of the 2019 Tariff Regulations.

73. Regulation 49(C)(a)(i) of the 2019 Tariff Regulations provides for the GSHR of the generating station as 2430 kCal/ kWh. Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, along with the provisos, provides for a minimum boiler efficiency of 86%, a maximum turbine heat rate of 1955, and a maximum design heat rate of 2273 kCal/ kWh. Thus, in terms of Regulation 49(C)(b)(i), the GSHR is determined as 2386.65 kCal/ kWh (1.05×2273). The Commission, vide its order dated 18.7.2023 in Petition No. 421/GT/2020, had allowed the GSHR of 2375.29 kCal/ kWh for the generating station for the period 2014-19 (from the COD of Unit-I till 31.3.2019). Considering the above and in terms of the proviso to Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, which provides for the consideration of the lowest of the heat rate norms



considered by the Commission during the period 2014-19 or those arrived as per methodology given under Regulation 49(C)(b)(i) or Regulation 49(C)(a)(i) of the 2019 Tariff Regulations, the GSHR of 2375.29 kCal/ kWh is allowed for the generating station for the period 2019-24.

Interest on Working Capital

74. Regulation 34 of the 2019 Tariff Regulations provides as under:

“34. Interest on Working Capital: (1) *The working capital shall cover:*

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

(i) Cost of coal or lignite and limestone towards stock if applicable for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;

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

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

(iv) Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;

(v) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and

(vi) Operation and maintenance expenses including water charges and security expenses for one month.

xxxx

(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 fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:

Provided that in case of new generating station the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months as used for infirm power preceding date of commercial operation for which tariff is to be determined.

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 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.

Provided that in case of truing-up the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.



(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.”

75. Regulation 3(7) of the 2019 Tariff Regulations defines Bank Rate as under:

“In these regulations, unless the context otherwise requires: -
Bank Rate’ means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”

76. The Petitioner has claimed interest on working capital as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal	9276.41	9276.41	9276.41	9276.41	9276.41
Cost of secondary fuel oil - 2 months	139.82	139.44	139.44	139.44	139.82
Maintenance Spares - 20% of O&M	2866.47	2956.95	3049.77	3147.27	3247.11
Receivables	17494.00	18056.80	18443.19	18519.12	18343.78
O&M expenses - 1 month	1194.36	1232.06	1270.74	1311.36	1352.96
Total Working Capital	30971.06	31661.66	32179.54	32393.59	32360.07
Rate of Interest	12.05%	12.05%	12.05%	12.05%	12.05%
Total Interest on Working capital	3732.01	3815.23	3877.63	3903.43	3899.39

Fuel Cost for computation of working capital

77. Regulation 34(2) of the 2019 Tariff Regulations provides that the computation of the cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals for the third quarter of preceding financial year. Further, Regulations 3(31), 3(41), and 37 of the 2019 Tariff Regulations provide as under:

“3(31) ‘GCV as Received’ means the GCV of coal as measured at the unloading point of the thermal generating station through collection, preparation and testing of samples from the loaded wagons, trucks, ropeways, Merry-Go-Round (MGR), belt conveyors and ships in accordance with the IS 436 (Part-1/ Section 1)- 1964:

Provided that the measurement of coal shall be carried out through sampling by third party to be appointed by the generating companies in accordance with the guidelines, if any, issued by Central Government:

Provided further that samples of coal shall be collected either manually or through hydraulic augur or through any other method considered suitable keeping in view the safety of personnel and equipment:

Provided also that the generating companies may adopt any advance technology for collection, preparation and testing of samples for measurement of GCV in a fair and transparent manner;



3(41) 'Landed Fuel Cost' means the total cost of coal (including biomass in case of co-firing), lignite or the gas delivered at the unloading point of the generating station and shall include the base price or input price, washery charges wherever applicable, transportation cost (overseas or inland or both) and handling cost, charges for third party sampling and applicable statutory charges;

38. Landed Fuel Cost of Primary Fuel: The landed fuel cost of primary fuel for any month shall consist of base price or input price of fuel corresponding to the grade and quality of fuel and shall be inclusive of statutory charges as applicable, washery charges, transportation cost by rail or road or any other means and loading, unloading and handling charges:

Provided that procurement of fuel at a price other than Government notified prices may be considered, if it is based on competitive bidding through transparent process;

Provided further that landed fuel cost of primary fuel shall be worked out based on the actual bill paid by the generating company including any adjustment on account of quantity and quality;

Provided also that in case of coal-fired or lignite based thermal generating station, the Gross Calorific Value shall be measured by third party sampling and the expenses towards the third-party sampling facility shall be reimbursed by the beneficiaries”

78. Regulation 43 of 2019 Tariff Regulations provide as under:

“43. Computation and Payment of Energy Charge for Thermal Generating Stations

(1) The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable), and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). Total Energy charge payable to the generating company for a month shall be:

Energy Charges = (Energy charge rate in Rs./kWh) x {Scheduled energy (exbus) for the month in kWh}

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

(a) For coal based and lignite fired stations :

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

(b) For gas and liquid fuel based stations: $ECR = SHR \times LPPF \times 100 / \{(CVPF) \times (100 - AUX)\}$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal-based stations less 85 Kcal/Kg on account of variation during storage at generating station;

(b) Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel-based stations;

(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio:

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

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

SHR = Gross station heat rate, in kCal per kWh;

LC = Normative limestone consumption in kg per kWh;

LPL = Weighted average landed cost of limestone in Rupees per kg;

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



of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to blending ratio);
SFC = Normative Specific fuel oil consumption, in ml per kWh;
LPSFi = Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ml during the month:

Provided that energy charge rate for a gas or liquid fuel based station shall be adjusted for open cycle operation based on certification of Member Secretary of respective Regional Power Committee during the month.

(3) In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimisation of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station:

Provided that in such case, prior permission from beneficiaries shall not be a precondition, unless otherwise agreed specifically in the power purchase agreement:

Provided further that the weighted average price of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (5) of this Regulation: Provided also that where the energy charge rate based on weighted average price of fuel upon use of alternative source of fuel supply exceeds 30% of base energy charge rate as approved by the Commission for that year or exceeds 20% of energy charge rate for the previous month, whichever is lower shall be considered and, in that event, prior consultation with beneficiary shall be made at least three days in advance.

(4) Where biomass fuel is used for blending with coal, the landed cost of biomass fuel shall be worked out based on the delivered cost of biomass at the unloading point of the generating station, inclusive of taxes and duties as applicable. The energy charge rate of the blended fuel shall be worked out considering consumption of biomass based on blending ratio as specified by Authority or actual consumption of biomass, whichever is lower.

(5) The Commission through specific tariff orders to be issued for each generating station shall approve the energy charge rate at the start of the tariff period. The energy charge rate so approved shall be the base energy charge rate for the first year of the tariff period. The base energy charge rate for subsequent years shall be the energy charge computed after escalating the base energy charge rate by escalation rates for payment purposes as notified by the Commission from time to time under competitive bidding guidelines.

(6) The tariff structure as provided in this Regulation 42 and Regulation 43 of these regulations may be adopted by the Department of Atomic Energy, Government of India for the nuclear generating stations by specifying annual fixed cost (AFC), normative annual plant availability factor (NAPAF), installed capacity (IC), normative auxiliary energy consumption (AUX) and energy charge rate (ECR) for such stations.”

92. Further, Regulation 39 of the 2019 Tariff Regulations provides as under:

“39. Transit and Handling Losses: For coal and lignite, the transit and handling losses shall be as per the following norms: -

Thermal Generating Station	Transit and Handling Loss (%)
<i>Pit Head</i>	<i>0.2</i>
<i>Non-pithead</i>	<i>0.8</i>

Provided that in case of pit-head stations, if coal or lignite is procured from sources other than the pit-head mines which is transported to the station through rail, transit and handling losses applicable for non-pit head station shall apply;



Provided further that in case of imported coal, the transit and handling losses applicable for pit-head station shall apply.”

79. The Petitioner has claimed the cost and GCV of coal and oil as follows:

Weighted average price of coal (Rs. / MT)	3794.27
Weighted average GCV of coal (kCal / kg) after adjusting 85 kCal / kg	4080.82
Weighted average price of oil (Rs. / kL)	57619.13
Weighted average GCV of oil (kCal/Ltr.)	9537.01

80. Considering the above, the Petitioner has claimed the fuel components as part of the working capital as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal	9276.41	9276.41	9276.41	9276.41	9276.41
Cost of secondary fuel oil - 2 months	139.82	139.44	139.44	139.44	139.82

81. Respondent BSPHCL has submitted that in terms of Regulation 38 of the 2019 Tariff Regulations, the GCV of coal shall be measured by third-party sampling, but the Petitioner has not provided any sampling report by third-party. It has stated that in terms of Regulation 40, the Petitioner is required to submit Form-15, exclusive of the opening stock, but the information furnished in the said form is inclusive of the opening stock. The Respondent has further stated that in terms of the proviso to Regulation 40, the Petitioner shall furnish copies of the bill and the detailed parameters of GCV and the cost on its website. In response, the Petitioner has clarified that Form 15 has been filed along with the petition, and the same was uploaded to the website of the Petitioner company and also shared with the beneficiaries. Subsequently, in response to the directions of the Commission, the Petitioner vide affidavit dated 14.9.2022 submitted that the ‘Other Charges’ include stone picking charges, Loco driver salary, sampling charges, etc., and are incurred to transport coal to the plant and hence form part of the landed cost of coal in the station boundary. It has been submitted that these charges are generally accounted for and billed in the month in which the same is



incurred, but as the difference in other charges pertains to October / November 2018, it has been booked in December 2018, as there is an abnormal rise in that month.

82. The Commission vide ROP of the hearing dated 6.2.2024 directed the Petitioner to furnish the following information:

“i) Form 15 in the prescribed format provided under the 2019 Tariff Regulations, indicating the quantity, value and GCV of opening stock for the applicable months.

ii) In terms of Regulation 3 (6) of 2019 Tariff Regulations, submit auditor certified month-wise, October, 2018 to December, 2018, ‘GCV (EM basis) As billed,’ and ‘GCV (EM basis) As received’, Equilibrated Moisture and Total Moisture of sampling taken from wagon top of coal received along with the detailed computation sheet in arriving at such values from CIMFR reports and copy of subject reports.

iii) Reasons for the GCV loss claimed of 602 kCal / kg, 593 kCal / kg and 703 kcal / kg in October, 2018, November, 2018 and December, 2018, respectively. Further, in terms of Regulation 3 (6) of 2019 Tariff Regulations, submit auditor certified month wise, segregated amount on account coal supplied, grade slippage and excess moisture, along with a copy of all actual bills raised by coal companies.

iv) The expenses incurred in 2018-19 under the heads ‘Coal Sampling Charges’, ‘Loco / Other Hiring Charges’, ‘Stone Picking Charges’, ‘Coal Unloading Charges’, ‘Loco Pilot Salary / Retired Railway Staff’ and ‘Misc. Charges’, along with supporting documents.

v) Reasons for claiming ‘Misc. Charges’ in October, 2018 as well as November, 2018, and ‘Loco Pilot Charges’ in November, 2018, while the procurement of coal in these months appears to be ‘nil’ / ‘low’, and all other components were claimed as ‘zero’.”

83. In response, the Petitioner vide affidavit dated 10.4.2024 has revised Form 15, indicating the opening stock, its value, and GCV, and has also submitted a few reports of CIMFR, copies of bills of the coal company and Railways, purchase orders pertaining to other charges, etc., on a sample basis along with the break-up of the other charges for October 2018, November 2018 and December 2018. In addition, the Petitioner has submitted the following:

- a. As the ‘GCV as billed’ is done at the loading end on an Equilibrated (EQ) basis, and ‘GCV as received’ is at the unloading end on a Total Moisture (TM) basis, there is a difference. In addition, the presence of surface moisture, heterogeneity of coal, i.e., characteristics vary from loading end to unloading end, loss of volatile matter during transportation, non-pithead stations having coal sourced from a long distance, etc., lead to differences in GCV. Further, the supply and transportation of coal is through entities that are essentially monopolistic. However, it has made all efforts to reduce grade slippage, such as third-party sampling, as per Govt. of India guidelines. However, the grade



slippage during transit, if any, is beyond reasonable control of the Petitioner, and the commercial settlement for procurement of coal is based on the declared grade of mine (GCV of declared grade).

- b. Form 15 submitted is auditor certified, wherein the coal supplied, credit note/debit note, if any, with regards to grade slippage or excess moisture, and bill of coal companies are already accounted for.
- c. Other charges, i.e., stone picking charges, Loco driver/pilot salaries, sampling charges, etc., are incurred to transport coal to the plant and, hence, form part of the landed cost of coal in the station boundary.
- d. The sampling charges refer to the cost involved in the process of sample collection, its contract execution to assess the parameters at the station before unloading, and these charges are paid to a third towards sampling collection, analysis, etc.,
- e. Retired railway staff salary/loco pilot salary refers to the expenses incurred for the ex-railway staff deployed for O & M of MGR/railway siding, movement of coal rakes (station controllers, gatemen, points men), signalling system (electrical and mechanical signal maintainers), an inspection of the track (permanent way inspector), shunting operation, etc.,
- f. Unloading/shifting charges are expenses incurred for the deployment of labour and machinery for unloading coal from the Railway wagons in wagon tippler/track hopper / pre-wagon tippler / pre-track hopper area etc., handling of spillage coal from wagons, shifting / transportation of coal to yards as per requirement and shifting / transportation again feeding hopper as per operational needs. Further, it includes machinery like rock breakers, etc, which are deployed for breaking big-size coal boulders.
- g. Miscellaneous charges such as jeep hire, etc, and loco / other hiring charges are for the movement of CIMFR / third party personnel through the vehicle at the station during third party sampling, for shunting and placement of loaded coal rakes/wagons inside the station, etc.,
- h. Other charges are generally accounted for and billed in the same month. However, in the present case, some expenses associated with October 2018 and November 2018 were booked in December 2018.

84. Respondent, BSPHCL has submitted the following:

- a. Despite the direction of the Commission to furnish the detailed computation sheet for arriving at the GCV (EM basis) as billed, GCV (EM basis) as received, EM, TM, etc., the Petitioner has not furnished the same. In the absence of such computation, the information provided cannot be verified.



- b. The third-party sampling reports at the unloading end had many irregularities, including the fact that the report mentions that GCV has been analysed as per IS 1350 but does not have any reference for IS 436 (Part I), which specifies for sample collection, preparation and the same is mandated in terms of the 2019 Tariff Regulations.
- c. The said report does not also mention the manner in which and the place at which the sample was collected. In the absence of the same, no deviation shall be allowed, as recommended by the CEA. The reasons furnished by the Petitioner for GCV loss do not justify the huge loss in GCV and the grade slippage during transit, as contended by the Petitioner, and are also not in accordance with the 2019 Tariff Regulations.
- d. Despite the direction of the Commission to furnish all the actual bills raised by the Coal companies, the Petitioner has furnished only a few bills on a sample basis. In the absence of the same, the claim of the amount paid to the Coal company may be disallowed.
- e. Despite the direction of the Commission to furnish the supporting documents for the 'other charges' claimed, the Petitioner has furnished only on a sample basis. Further, as per these documents, the contracts were executed for a year on a lumpsum basis, but the claim in the present petition is on a monthly basis and the Petitioner has not given any details in arriving at the monthly expenses. In the absence of it, the claim may be disallowed.
- f. As the plant is a non-pit head plant, though there is no requirement for an MGR system, the Petitioner has claimed Railway staff under the MGR department.

85. The Petitioner, vide its rejoinder, has clarified the following:

- a. The Petitioner has already provided the sampling reports on a sample basis, and the third-party sampling of coal is the most authentic data. The IS 1350 provides for sampling and analysis of coal sampled as per the methodology provided by IS 436, and IS1350 provided 'as received GCV' as

$$Q1 = Q \times (1-M1)/(1-M),$$
 whereas,
 M – moisture on air dried
 M1 – moisture on as received basis
 Q – Calorific value on air-dried basis
 Q1 – Calorific value on as received basis
- b. The infrastructure for taking coal from a wagon at the unloading end is already in place at this station, and the sample is collected by the third party from the wagon top.
- c. The operation of the Railway siding is coordinated by the MGR department at this station. There is no discrepancy in the data submitted and the same is in line with Form 15.



86. The submissions have been considered. It is noticed that the Petitioner, in the main petition, has submitted Form 15 inclusive of the opening stock, its value, and GCV. However, based on the direction of the Commission, the Petitioner has revised the Form 15. It is also noticed that the Petitioner has submitted the month-wise and the head-wise break-up of the 'other charges', enclosed a few reports of the CIMFR, including some bills raised by the Coal company and Railways. In addition, the Petitioner has furnished the purchase orders placed for the various heads/works claimed under the 'other charges. Considering the said information furnished by the Petitioner, the following is noticed:

- a. Revised Form-15 submitted is unaudited.
- b. Despite the directions of the Commission, the Petitioner has neither furnished the month-wise 'GCV (EM basis) as billed,' 'GCV (EM Basis) as received,' 'Equilibrated Moisture' and 'Total Moisture' of the coal received at Plant end nor has furnished any computation sheet in arriving at these values, based on the CIMFR reports.
- c. Form 15 furnished includes a positive adjustment of Rs.24754212 /- towards the coal company, but no information has been provided regarding the debit note i.e., negative adjustment.
- d. Despite information being sought separately vide ROP regarding Form 15, which provides for a separate entry for 'adjustment in the amount charged by Coal Company,' the Petitioner has not furnished the segregated amount on account of coal supplied, the grade slippage and excess moisture, but has only submitted that the credit note/debit note, if any, has already been accounted for.
- e. Despite seeking all actual bills raised by the Coal company, the Petitioner has submitted only a few on a sample basis. Also, supporting documents have not been furnished with regard to stone picking charges and unloading charges.

87. Thus, the information furnished by the Petitioner is incomplete, limited, and vague. However, with regard to the GCV as received, the Petitioner has not furnished any detailed computation along with the supporting documents thereof. However, the 'GCV as received' claimed by the Petitioner has been considered at this stage. This is subject to the Petitioner submitting the detailed computation sheet, inclusive of GCV as billed, GCV on 'as received' (EM), GCV on as received (TM), TM, and EM arrived



on the basis of third-party sampling reports, along with a copy of all such reports, at the time of truing up of tariff.

88. On scrutiny of the documents available on record and as per the submissions of the Petitioner, the quantity, the cost, and GCV of opening stock, the coal received, and total coal are as under:

	Oct, 2018			Nov, 2018			Dec, 2018		
	Opening	Received	Total	Opening	Received	Total	Opening	Received	Total
Quantity (MT)	27226.91	183540	210766.91	37183.65	192426.25	229609.90	32913.49	215922.98	248836.47
Cost (Rs.)	107230109	683153601	790383711	140418069	702941074	843359145	121707517	841643186	963350703
Rs./MT	3838.89	3776.35	3776.35	3776.35	3697.80	3697.80	3697.80	3898.48	3898.48
GCV Billed (kCal/kg)	4707	4821	4821	4821	4738	4738	4738	4483	4483
GCV received (kCal/kg)	4078	4240	4219	4219	4132	4145	4145	4140	4140

89. It is observed from the above that:

- a. Though the Petitioner has revised Form-15 indicating the opening stock and its value, its impact in terms of the landed cost of coal and GCV (as received) has not been accounted for.
- b. Though the Petitioner has claimed the 'GCV as billed' of the opening stock of the current month as 'per GCV as billed' of coal received in the previous month, i.e., coal received in the previous month is considered as the opening stock for the current month, the cost of opening stock is at variance with the cost of coal received in the previous month.

90. Considering the information furnished in Form 15 and the sample coal bills enclosed, the claim of the Petitioner towards the amount paid to the Coal companies per MT and the Coal India bills (notified price + all applicable charges) for the same grade of coal, in brief, are as under:

	Oct, 2018	Nov, 2018	Dec, 2018
GCV Billed (kCal/kg)	4821	4738	4483
Quantity Supplied (MT)	183540.00	192426.25	215922.98
Total Amount paid to coal company (Rs.)	499249607	490057998	566960710
Amount paid to coal company per MT (Rs. /MT)	2720.11	2546.73	2625.75
As per CIL's bill (notified price + applicable charges) (Rs. / MT)	2093.74	2093.74	1872.91

91. In view of the above and as the Petitioner has submitted that the credit note/debit note, if any, with regards to the grade slippage or excess moisture and bill of coal



companies have already been accounted for, it is noticed that the cost of coal having GCV billed as 4483 in December 2018, is higher than the cost of coal having GCV billed as 4738 in November 2018. However, the Petitioner has not furnished any reasons for the same. It is also noticed that the cost of coal claimed by the Petitioner towards the Coal company is higher than the bills raised by the Coal company for a similar grade of coal, but the Petitioner has not furnished any reasons for the same. Accordingly, the cost arrived on the basis of the Coal India bills, has been considered at this stage. The Petitioner is granted liberty to submit all relevant documents, including all actual bills, all actual credit/debit notes, and the amount paid to the Coal company at the time of truing-up of tariff in support of the month-wise amount claimed in Form 15 for consideration.

92. As regards the 'other charges' claimed, it is noticed that though the Petitioner has claimed the Coal Sampling charges, Stone Picking charges, Coal Unloading charges, Loco pilot / Railway Staff salary, Loco Hiring charges, and Miscellaneous charges (Jeep Hiring, Other Consultancy charges, etc.), the Petitioner has furnished supporting documents i.e., purchase orders for Coal Sampling charges, Loco pilot / Railway Staff salary, Loco Hiring charges and Jeep Hiring charges only and the same pertains only to one year. As the Petitioner has submitted that some expenses associated with October 2018 and November 2018 were booked in December 2018, the head-wise expenses claimed in October 2018, November 2018, and December 2018 and the amount specified in the supporting documents (purchase orders) are compared and the same is tabulated below:

	Oct, 2018	Nov, 2018	Dec, 2018	Amount	Period	Per month
Coal Sampling Charges (Rs.)	0	0	9230138	16046931	1.3.2018 to 28.2.2019	1337244
Stone Picking Charges (Rs.)	0	0	3566235	-	-	-
Coal Unloading Charges (Rs.)	0	0	7531271	-	-	-
Loco Pilot / Retired Railway Staff Salary (Rs.)	0	0	1892629	9301967	1.3.2018 to 31.5.2019	620131
Loco / Other Hiring Charges	0	5872785	11233003	22976040	16.11.2017 to	1914670



(Rs.)					15.11.2018	
Miscellaneous Charges (Jeep Hiring, Other Consultancy Charges) (Rs.)	108637	309486	553125	374000	1.4.2018 to 31.3.2019	31167
Total (Rs.)	108637	6182271	34006401			3903212

93. It is evident from the above that the amount claimed by the Petitioner in Form 15 against each subhead under 'other charges' is much higher than the monthly cost arrived at on the basis of purchase orders. However, the Petitioner has not furnished any reasons for the same. Accordingly, the monthly amount arrived at on the basis of the purchase orders has been considered at this stage. The Petitioner is granted liberty to submit all relevant documents in support of each of the subheads claimed under 'other charges' for consideration at the time of truing-up of tariff.

94. As regards GCV and the landed cost of oil, as per the information furnished in Form 15 A, it is noticed that the Petitioner has furnished GCV of the opening stock as well as the total oil but not the oil received during the month. Similarly, the landed cost claimed in a month does not match with the opening stock value of the following month. However, as no other documents have been furnished to arrive at these values, the parameters, as furnished by the Petitioner for the respective months, have been considered at this stage. The Petitioner is directed to submit a copy of all actual bills associated with oil along with the month-wise oil consumed and detailed computation sheet for arriving at the GCV and cost of oil claimed from the bills at the time of truing-up of tariff.

95. Based on the above, the weighted average price and GCV of coal and oil claimed and allowed for the period 2019-24, are as under:

	Claimed	Allowed
Weighted average price of coal (Rs. /MT)	3794.27	3124.33
Weighted average GCV of coal (kCal/kg) *	4080.82	4083.41
Weighted average price of oil (Rs. /KL)	57619.13	57585.41
Weighted average GCV of oil (kCal/Ltr.)	9537.01	9557.38

* Weighted average GCV of coal as received net of 85 kCal/kg.

96. Accordingly, the fuel components in working capital, are allowed as under:



	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal for stock (20 days) at NAPAF	2886.02	2886.02	2886.02	2886.02	2886.02
Advance towards the cost of Coal for generation (30 days) at NAPAF	4329.03	4329.03	4329.03	4329.03	4329.03
Cost of Secondary fuel 2 Months at NAPAF	139.74	139.35	139.35	139.35	139.74

Energy Charge Rate

97. The Petitioner has claimed ECR (ex-bus) of Rs.2.594 / kWh, on the basis of 'Price' and 'as received GCV' of coal, after reducing the same by 85 kcal/ kWh and Price and GCV of secondary fuel oil pertaining to preceding three months, i.e., October 2018 to December 2018. Considering the operational norms, the GCV, and the cost of primary and secondary fuel allowed as above, the ECR (ex-bus) of the generating station (rounded off to three decimals) is determined as Rs.2.025 / kWh.

98. The Petitioner, on a month-to-month basis, shall compute and claim the energy charges from the beneficiaries based on the formulae given under Regulation 43 of the 2019 Tariff Regulations. The Petitioner is also directed to furnish Form 15 for each month, clearly mentioning all the values associated with coal received from mines owned by the Petitioner, coal received from the linked mines, and the coal received from other sources, along with the demurrage charges.

Working Capital for Maintenance Spares

99. The Petitioner, in Form-O, has claimed the maintenance spares in the working capital as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
2866.47	2956.95	3049.77	3147.27	3247.11

100. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for the maintenance spares @ 20% of the O&M expenses (including water charges and security expenses). Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and security expenses) allowed is as under:



(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2861.35	2951.60	3044.42	3141.92	3241.99

Working Capital for Receivables

101. In terms of Regulation 34(1)(a)(v) of the 2019 Tariff Regulations, the receivables equivalent to 45 days of the capacity charges and energy charges is worked out and allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charges - for 45 days	6597.41	6597.41	6597.41	6597.41	6597.41
Fixed Charges - for 45 days	8815.13	9091.34	9106.79	9095.19	8992.74
Total	15412.55	15688.75	15704.20	15692.60	15590.16

Working Capital for O&M Expenses (1 month)

102. The Petitioner, in Form-O, has claimed the O&M expenses for 1 month in the working capital as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1194.36	1232.06	1270.74	1311.36	1352.96

103. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provides for the O&M expenses equivalent to 1 (one) month of the O&M expenses (including water charges and security expenses). Accordingly, O&M expenses, equivalent to 1 () month of the O&M expenses (including water charges and security expenses) allowed is as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1192.23	1229.84	1268.51	1309.14	1350.83

Rate of Interest on Working Capital

104. In line with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e., 1-year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 2019-20, 11.25% (i.e. 1-year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for 2020-21, 10.50% (i.e. 1-year SBI MCLR of 7.00% as on 1.4.2021 / 1.4.2022 + 350 bps) for the period 2021-23 and 12.00% (i.e. 1-year SBI



MCLR of 8.50% as on 1.4.2023 + 350 bps) for 2023-24. Accordingly, Interest on working capital has been computed and allowed as under:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Cost of Coal towards Stock - (20 days generation corresponding to NAPAF) (A)	2886.02	2886.02	2886.02	2886.02	2886.02
Working Capital for Cost of Coal towards Generation— (30 days generation corresponding to NAPAF) (B)	4329.03	4329.03	4329.03	4329.03	4329.03
Working Capital for Cost of Secondary fuel oil - (2 months generation corresponding to NAPAF) (C)	139.74	139.35	139.35	139.35	139.74
Working Capital for Maintenance Spares @ 20% of O&M expenses (D)	2861.35	2951.60	3044.42	3141.92	3241.99
Working Capital for Receivables – (45 days of sale of electricity at NAPAF) (E)	15412.55	15688.75	15704.20	15692.60	15590.16
Working Capital for O&M expenses - 1 month (F)	1192.23	1229.84	1268.51	1309.14	1350.83
Total Working Capital	26820.92	27224.61	27371.55	27498.07	27537.77
Rate of Interest	12.050%	11.250%	10.500%	10.500%	12.000%
Interest on Working Capital	3231.92	3062.77	2874.01	2887.30	3304.53

Annual Fixed Charges approved for the period 2019-24

105. Accordingly, the annual fixed charges approved for the period 2019-24 for the generating station are summarized below:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	16183.77	17109.84	17505.84	17785.02	17799.06
Interest on Loan	18489.13	18210.45	17187.61	15977.45	14397.83
Return on Equity	19484.84	20599.81	21076.58	21412.70	21429.61
Interest on Working Capital	3231.92	3062.77	2874.01	2887.30	3304.53
O&M Expenses	14306.75	14758.02	15222.12	15709.62	16209.95
Total	71696.41	73740.88	73866.15	73772.09	73140.98

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

106. The annual fixed charges approved as above, is subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

Application Fee and Publication expenses

107. The Petitioner has sought the reimbursement of the fee paid by it for filing the tariff petition for the period 2019-24 and for the publication expenses. The Petitioner



shall be entitled to reimbursement of the filing fees and publication expenses in connection with the present petition directly from the beneficiaries on a pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

108. Similarly, RLDC Fees & Charges paid by the Petitioner in terms of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Dispatch Centre and other related matters) Regulations, 2019, shall be recovered from the beneficiaries. In addition, the Petitioner is entitled to recovery of statutory taxes, levies, duties, cess, etc., levied by the statutory authorities in accordance with the 2019 Tariff Regulations.

109. Petition No. 446/GT/2020 is disposed of in terms of the above.

**Sd/-
(Harish Dudani)
Member**

**Sd/-
(Ramesh Babu V.)
Member**

**Sd/-
(Jishnu Barua)
Chairperson**

