

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Review Petition No. 10/RP/2023 in
Petition. No. 393/GT/2020**

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 1st May, 2024

In the matter of

Review of the Commission's order dated 19.9.2022 in Petition No. 393/GT/2020 pertaining to truing up of tariff of Mauda STPS Stage-I (1000 MW) for the period 2014-19.

AND

IN THE MATTER OF

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

...Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar, Rampur,
Jabalpur-110003
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, Bandra (East), Mumbai-400051
3. Gujarat Urja Vikas Nigam Limited,
2nd Floor Sardar Patel Vidyut Bhawan,
Race course, Vadodara -390007
4. Chhattisgarh State Power Distribution Company Limited,
Vidyut Sewa Bhawan, Dagania,
Raipur- 492001
5. Electricity Department,
Government of Goa, 3rd Floor, Vidyut Bhawan,
Panaji, Goa-403001



6. DNH Power Distribution Corporation Limited,
UT of DNH, Silvassa-396230
7. Electricity Department,
Administration of Daman & Diu,
Daman-396210

...Respondents

Parties present:

Shri A.S. Pandey, NTPC
Shri Sameer Aggarwal, NTPC
Shri Vivek Kumar, NTPC
Shri Ravin Dubey, Advocate, MPPMCL

ORDER

Petition No.393/GT/2020 was filed by the Review Petitioner, NTPC for truing-up of the tariff of Mauda STPS, Stage-I (1000 MW) (in short, 'the generating station') for the period 2014-19, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations') and the Commission vide its order dated 19.9.2022 (in short, 'the impugned order') had approved the tariff of the generating station as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	29833.25	31716.32	32943.03	33658.01	33719.63
Interest on Loan	30291.92	28915.37	27747.18	25673.09	23616.80
Return on Equity	33825.47	36305.62	37841.74	38727.55	38919.14
O&M Expenses	16605.60	18277.20	18682.76	20033.28	21899.71
Interest on Working Capital	11965.40	12150.30	12199.95	12484.33	12558.82
Total	122521.65	127364.80	129414.66	130576.26	130714.11

2. Aggrieved by the impugned order, the Petitioner has sought review of the said order, on the ground of error apparent on the face of the order, on the following issues:

(a) Disallowance of additional capitalization for Main plant and Off-site civil works and CW system works in 2017-18 and 2018-19;

(b) Calculation of weighted average GCV of coal as received for the purpose of IOWC allowed without adjustment of moisture content; and

(c) Calculation of weighted average price of coal for the purpose of IOWC allowed as Rs 4486.53/MT instead of claimed Rs 5486.22/MT;



Hearing dated 31.5.2023

3. *The Review Petition was admitted on 31.5.2023 on the issues raised in paragraph 1 above, and notice was served on the Respondents. The Commission also directed the parties to complete their pleadings in the matter.*

Hearing dated 28.7.2023

4. During the hearing on 28.7.2023, the representative of the Review Petitioner made detailed oral submissions in support of its prayer for review of the impugned order. However, the Commission, after permitting the Respondent MPPMCL to file its reply and the Petitioner its rejoinder, reserved its order in the review petition. In compliance thereof, the Respondent, MPPMCL, has filed its reply vide affidavit dated 25.8.2023, and the Review Petitioner has filed its rejoinder to the same vide affidavit dated 8.9.2023.

Hearing dated 31.1.2024

5. Since the order in the Review Petition (which was reserved on 28.7.2023) could not be issued prior to one Member of this Commission, who formed part of the Coram, demitting office, the matter has been re-listed for hearing. At the outset, the representative of the Review Petitioner submitted that since the pleadings have been completed and the matter was argued, the Commission may reserve its orders. It was pointed out that this coram includes two members of the earlier coram. Both counsels agreed that no further oral hearing is required. Based on the consent of the parties, the Commission reserved its order in the matter.

6. Based on the submissions of the parties and the documents available on record, we proceed to examine the issues raised by the Review Petitioner in the subsequent paragraphs.



A. Disallowance of additional capitalization for Main Plant and Off-site civil works and CW system works in 2017-18 and 2018-19;

7. The Commission, in paragraph 25 of the impugned order dated 19.9.2022, had not considered any additional capitalization towards Main Plant, Off-site civil works, and CW system works but had granted liberty to claim the same after a final decision was taken in the arbitration cases, as under:

“25..The matter has been considered. It is observed that the Commission vide its order dated 9.10.2018 in Petition No. 38/MP/2018 had extended the cut-off date to 31.3.2019, in respect of the Railway Siding works only, while in respect of the other expenditures towards Land compensation, Water System, Main Plant & offsite civil works, Steam Turbine, TG package and Station C&I, it was observed that the claim shall be dealt with in terms of Regulation 14(3)(i) of the 2014 Tariff Regulations as and when the arbitration cases were settled. The Petitioner has also submitted that the final decision in the arbitration case of land compensation, Water System and Main Plant & offsite civil works are still pending. For this reason, we have not considered any amount for additional capitalization towards these items (except Steam Turbine, TG package and Station C&I). We however, grant liberty to the Petitioner to claim the additional expenditure on these counts, after a final decision is taken in the arbitration cases and the same will be considered in accordance with law and subject to production of all details/supporting documents.”

Submissions of the Review Petitioner

8. The Review Petitioner has submitted that for the years 2017-18 and 2018-19, it had provided justification that the said works extended beyond the cut-off date due to arbitration in the said work packages and the Commission vide its order dated 9.10.2018 in Petition No. 38/MP/2018 (prayer for extension of the cut-off date for Mauda-I) had acknowledged the same. The Review Petitioner has further submitted that vide additional information dated 14.7.2022, it had provided the details regarding the claims for additional capitalization after the cut-off date for these works. Accordingly, the Review Petitioner has pointed out that in respect of the Main Plant & Offsite civil works, it had submitted as under:

“11. It is submitted that the Petitioner in the instant petition has claimed additional capitalization of Rs 561.31 lakh in 2017-18 and Rs 1793.09 lakh in 2018-19 against Main Plant & Offsite civil works. It is submitted that as on cut-off date of Mauda-I, i.e. 31.03.2017, an amount of Rs 1536.13 lakh was lying under CWIP against Main Plant & offsite civil works package being executed by M/s EIEL. As the balance works were



offloaded and works were progressively completed and assets were put to use, capitalization was made out of CWIP subsequently in 2017-18 and 2018-19. It is submitted that the additional capitalization against Main Plant & Offsite Civil works claimed in 2017-18 and 2018-19 pertains to works getting capitalized out of CWIP corresponding to M/s EIEL and against the works executed in offloaded packages for balance works of original scope of works under Main Plant & Offsite civil works package.”

9. As regards CW System civil works, the Review Petitioner stated that it had in its additional submissions dated 14.7.2022 submitted as under:

“7. Further, as described above, the Water System (Cooling Tower package) works were completed and put to use within the cut-off date of Mauda-I. It is submitted that additional capitalization of Rs 8.05 lakh claimed in 2017-18 against Water System is on behalf of balance payments pertaining to defect rectification in the said package under original scope of works and the Hon'ble Commission may be pleased to allow the same in terms of Regulation 14(1)(i) read with Regulation-54 of Tariff Regulations 2014.”

10. With respect to the additional capitalization claimed against the original scope of works of CW System in 2018-19, the Review Petitioner submitted that it had, in Form-9, provided justification that the same pertains to adjustments during the contract closing process, for 2018-19.

11. The Review Petitioner has submitted that in terms of the above submissions, it had submitted that the additional capitalization claimed under the original scope of work of the Main Plant & Offsite Civil works after the cut-off date, in 2017-18 and 2018-19, pertains to the actual physical completion of the balance works of buildings, structures, etc. It has also stated that the payment of an amount of Rs 1536.13 lakh against the execution of the works towards the Main Plant & Offsite Civil works was made to the agency even prior to the cut-off date, but since the assets were not put to use, the same was lying in Capital Works in Progress (CWIP). Subsequently, in 2017-18 and 2018-19, as the balance works offloaded to other agencies were completed and put to use, the capitalization out of this CWIP was made in 2017-18 and



2018-19 along with the direct capitalization aggregating the claim of additional capitalization against the Main Plant & Offsite Civil Works in 2017-18 and 2018-19. The Review Petitioner has also submitted that the additional capitalization claimed under Main Plant & Offsite Civil works after the cut-off date in 2017-18 and 2018-19 pertains to the actual physical completion of the assets under the original scope of works, which were necessary to be completed to support the sustainable generation from the station and have been put to use for service of beneficiaries, after being capitalized. Accordingly, the Review Petitioner has submitted that the above additional information dated 14.7.2022, provided by the Review Petitioner had escaped the attention of the Commission as the said additional capitalization pertains to the actual physical completion of works and not to the arbitration award. The Review Petitioner has further stated that in the arbitration matter, whenever the claims of agency/ counter-claims by the Petitioner are settled by the Arbitrator, the same can be accounted for in tariff of the corresponding period; however, the claim of additional capitalization of the Review Petitioner against the physical completion of works, which are put to use for service of beneficiaries, on being capitalized, needs to be allowed in the year of capitalization in the respective tariff period, i.e., 2014-19. It has also submitted that it is a fit case for the Commission to invoke the Power to Relax under Regulation 54 of the 2014 Tariff Regulations and allow the said additional capitalizations beyond the cut-off date due to arbitration proceedings in the matter under Regulation 14(1)(ii) of the 2014 Tariff Regulations.



Reply and Rejoinder

12. The Respondent MPPMCL has pointed out to the impugned order dated 19.9.2022 and submitted that the Commission had examined all the relevant facts, circumstances, and regulatory provisions pertaining to the said additional capital expenditure claims and had formed a view, after applying its mind and allowed only the permissible claims. Accordingly, the Respondent has submitted that the prayer for allowing the additional capital expenditure on these works would be tantamount to substituting the view previously taken by the Commission in the impugned order with an alternate view, which is not permissible. In response, the Review Petitioner has clarified that as per the additional submissions dated 14.7.2022, it is clear that the additional capitalization claimed for the said works in 2017-18 and 2018-19 does not pertain to the arbitration award and is rather due to the actual physical completion of the assets (buildings, structures, etc.) which are under the original scope of work, necessary to be completed to support sustainable generation from the station, having been put to use for the service of beneficiaries, after being capitalized.

Analysis and Decision

13. We have considered the matter. It is evident that though the additional submissions filed by the Review Petitioner were taken on record, the submissions of the Review Petitioner on this issue were not examined and dealt with while passing the impugned order. In our view, the non-consideration of the additional submissions dated 14.7.2022 and deferring of the additional capitalization for assets within the original scope of works like the Main Plant & Offsite civil works and CW system works, after the cut-off date in 2017-18 and 2018-19, till the arbitration matter is settled, is an error apparent on the face of the order dated



19.9.2022 and therefore, the review on this ground is maintainable. Accordingly, the error is fit to be rectified by allowing the claims of the Review Petitioner on these works in the respective year of the actual capitalization, i.e., additional capital expenditure of Rs. 556.20 lakh and Rs. 160.36 lakh towards Offsite Civil/Roads, Rs. 5.11 lakh and Rs. 1632.73 lakh towards Main Plant Civil and Rs. 8.05 lakh and Rs. 14.90 lakh towards Water System. We direct accordingly. Issue (A) is disposed of accordingly.

B. Calculation of the weighted average GCV of coal as received for the purpose of IOWC allowed without adjustment of moisture content

14. The Commission, in paragraph 140 of the impugned order dated 19.9.2022, had considered the 'as received' GCV of coal of 4129.95 kcal/kg as under:

"140. The Petitioner has calculated GCV of 3817.01 kcal/kg which represents the simple average of GCV received of the preceding three months after adjustment of moisture content. We have considered the weighted average GCV as received (without any adjustment of moisture content) for three months, which works out to 4129.95 kcal/kg."

Submissions of the Review Petitioner

15. The Review Petitioner has submitted that it had, in compliance with the directions of the Commission, submitted the GCV details vide additional submission dated 29.6.2021. The Review Petitioner has also submitted that it had claimed the weighted average GCV of coal (as received) on a TM basis after applying the adjustment for moisture content (for Total moisture in as received coal) on the Weighted Average GCV of coal on EM/AD basis, determined in the laboratory as per relevant IS codes. The Review Petitioner has also submitted that in accordance with the formula prescribed for moisture adjustment in IS 1350 (Part II) – 1970 to derive GCV of coal as received from GCV of air-dried coal, it had provided the figures for Weighted Average GCV of coal as received in the period January 2014 to March 2014, after applying the said moisture adjustment for total moisture in the as-received



coal at unloading point of the generating station on the laboratory determined GCV of coal on EM/AD basis. It has stated that the GCV on an EM/AD basis is the laboratory-determined GCV of air-dried coal, determined in accordance with IS 1350 (Part II)-1970. Further, as per IS 1350 (Part II)-1970, to determine the GCV of coal as received, which is the intent of the Commission to consider for IOWC calculations during the period 2014-19, moisture adjustment considering the Total Moisture, in as received coal, is to be applied on the laboratory determined GCV of air-dried coal. However, the Review Petitioner has pointed out that the Commission, in the impugned order, for IOWC calculations, had considered the laboratory-determined GCV of coal on an EM/AD basis without applying the moisture adjustment, which is an apparent error on the face of the record and needs to be rectified accordingly. The Review Petitioner has stated that the Commission vide its order dated 1.2.2017 in Petition No. 328/GT/2014 while determining the tariff of the station for the period 2014-19, had considered the provision of adjustment for TM for GCV of coal to be considered for IOWC calculations. It has also stated that the Commission, in the truing up orders for the period 2014-19 for several stations, had considered the Weighted Average of coal as received for IOWC calculations after adjustment of total moisture, while a similar treatment has not been done in the impugned order dated 19.9.2022.

16. The Respondent MPPMCL has, in its reply raised the same contentions as mentioned in paragraph 12 above.

Analysis and Decision

17. The matter has been considered. It is observed that the Commission while passing the impugned order, had inadvertently not considered the moisture adjustment while computing the weighted average GCV, as submitted by the Review Petitioner. This, according to us, is an error apparent

on the face of the record, and review on this ground is allowed. Accordingly, we have considered the weighted average GCV as received (after adjustment of moisture content) for three months, which works out to be 3817.01 kcal/kg, as claimed by the Review Petitioner. Issue (B) is disposed of accordingly.

(C) Calculation of Weighted Average Price of Coal for the purpose of IOWC allowed as Rs 4486.53/MT instead of claimed Rs 5486.22/MT

18. The Commission, in paragraph 144 of the impugned order dated 19.9.2022, had considered and allowed the Weighted Average Price of coal for the purpose of Interest on Working Capital (IWC) as Rs.4486.53 /MT instead of Rs 5486.22/MT by considering the simple average of Weighted Average Price of coal for each of the months of January 2014 to March 2014 as per Form 15 provided by the Review Petitioner.

Submissions of the Review Petitioner

19. The Review Petitioner has submitted that it had claimed the Weighted Average Price of Coal (as received) as Rs 5486.22/MT by considering the total landed cost of coal and total of net coal supplied in the period January 2014 to March 2014 as per Form-15 ($4326461799.19/788605.03=5486.22$). It has also been submitted that the Weighted Average Price of coal for each individual month of the period January 2014 to March 2014, as provided in Form-15, is based on prices of domestic and e-auction coal and their respective blending ratio at consumption level and hence, the Weighted Average Price of coal, as allowed in the present case, by taking the simple average of Weighted Average Price for each individual months, takes into account the blending of coal at consumption level. The Review Petitioner has also stated that as per Regulation 28(2) of the 2014 Tariff Regulations, for IWC, the cost of fuel is based on the landed cost incurred, while as per Regulation 30(6)(a) of the 2014 Tariff Regulations, for ECR determination, the Weighted Average landed price of



primary fuel, during the month takes into account the blending of fuel from different sources. The Review Petitioner has pointed out that the Commission, in its order dated 15.12.2017 in Petition No. 28/RP/2017 (in Petition No. 322/GT/2014), had clarified that applying the blending ratio in the calculation of the weighted average price of coal would yield erroneous results. Accordingly, the Review Petitioner has submitted that there is an apparent error in the Weighted Average Price of coal for IOWC allowed in the impugned order, and the same needs to be rectified by considering the total landed cost of coal and the total net coal supplied in the period January 2014 to March 2014 without considering the blending ratios during each month, as described above.

Reply of the Respondent MPPMCL

20. The Respondent MPPMCL has submitted that the claim of the Review Petition is without any merit and is liable to be rejected for the following:

- (a) Working capital is defined as the capital of a business used in its day-to-day operations, whereas the use of e-auction coal for the generation of electricity is limited to the period when the availability of domestic coal received through FSA is not sufficient to cater to the requirement of coal. This is evident from the fact that only 6% was purchased through e-auction during January 2014. In view of the above issue also, the impugned order does not call for interference of this Commission.
- (b) The Petitioner may be directed to explain and justify the need for procuring imported coal during the month of January 2014 and why it should not be considered a deliberate attempt to artificially create an abnormal hike in the inventory cost of coal during those very special months that are required to be considered for the purpose of calculation of the average landed price of coal to gain undue advantage in form.



(c) The Commission may also direct the Review Petitioner to submit the incidence of procurement of imported coal during each financial year of the tariff period 2014-19, along with details like the quantum of coal imported, GCV of imported coal, landed cost of the imported coal, and its volume in total coal receipt during that period /financial year to examine the rationality, reasonability and logic of the claim of the Petitioner.

Rejoinder of the Review Petitioner

21. The Review Petitioner, in its rejoinder, has clarified as under:

(a) As per Regulation 28 of Tariff Regulations 2014, the Petitioner had provided the details of the landed cost of coal incurred as per actuals for each of January 2014 to March 2014 in Form-15 of the tariff filing forms filed in the Petition. The domestic/ e-auction/ imported coal is procured by the Petitioner for its stations, considering the requirement of coal to meet the electricity demand of its beneficiaries and availability of coal from various sources duly considering relevant provisions as per the Tariff Regulations and other statutory guidelines. In the case of this station also, domestic/ e-auction coal was procured by the Petitioner during the period January 2014 to March 2014 to meet the electricity demand of beneficiaries, including the Respondents.

(b) Having met its demand long back by availing of electricity from the station, it is highly objectionable for the Respondent to raise such frivolous and unwarranted contention that the Petitioner had deliberately procured imported coal in January 2014 (although only e-auction and not imported coal was procured) to artificially create an abnormal hike in the inventory cost of coal during the three months for which landed cost of coal is considered for the purpose of calculation of IWC. Further, it is relevant to mention that the same was also claimed originally in the Petition; however, as explained in detail, apparently, there is an error in the Weighted Average Price of coal allowed in the impugned order. Therefore, the



contentions of MPPMCL in the matter are unfounded and without any basis.

(c) As per the 2014 Tariff Regulations, the Petitioner duly provides to its beneficiaries the details of parameters of GCV and price of fuel (domestic coal/ e-auction coal/ imported coal/ liquid fuel/etc.) along with bills of the respective months. Hence, the contention of the Respondent is unfounded and without any basis. Further, for the purpose of calculation of IWC, details of coal procured during the period January 2014 to March 2014 only are applicable, and the Petitioner accordingly provided the same in the Petition. Therefore, the contentions of the Respondent are not relevant and are liable to be rejected.

Analysis and Decision

22. We have considered the submissions. The Respondents have submitted that the Petitioner has procured only 6% of coal through e-auction during January 2014 to artificially create an abnormal hike in the inventory cost of coal, whereas the use of e-auction coal for the generation of electricity is limited to the period when the availability of domestic coal received through FSA is not sufficient to cater to the requirement of coal. We do not find any substance in the aforesaid contention of the Respondent. To the contrary, we observe from the submissions of the Petitioner that the e-auction/imported coal has been procured only to meet the electricity demand of its beneficiaries, when the availability of the domestic coal was insufficient to meet the electricity demand. The weighted average price of fuel in proportion to the blending ratio, as submitted by the Petitioner in Petition No. 393/GT/2020 is as under:

Coal	Units	Jan-14		Feb-14		Mar-14	
		Domestic	E-Auction	Domestic	E-Auction	Domestic	E-Auction
Net coal / Lignite Supplied	(MT)	239666.04	11140.67	91578.50	166899.37	25479.53	253840.92
Total amount	(Rs. lakh)	7164.86	968.04	2662.43	12377.23	815.75	19276.31



Coal	Units	Jan-14		Feb-14		Mar-14	
		Domestic	E-Auction	Domestic	E-Auction	Domestic	E-Auction
Charged for Coal/Lignite supplied including Transportation							
Landed cost of coal/ Lignite	(Rs./MT)	2989.52	8689.24	2907.26	7415.98	3201.57	7593.85
Blending Ratio (Domestic/ Imported) (on consumption basis)		94%	6%	62%	38%	48%	53%
Weighted average cost of coal / Lignite for the preceding three months	(Rs/MT)	3331.503		4620.578		5507.521	

23. Accordingly, the weighted average price of fuel works out to Rs. 4524.75/MT. However, the Commission, in the impugned order, had inadvertently considered the weighted average price of coal as Rs.4486.53/MT. This, according to us, is an error apparent on the face of the impugned order dated 19.9.2022, which is required to be rectified. Accordingly, the review on this count is allowed and the error in the impugned order is corrected on this count. Issue (C) is disposed of accordingly.

24. Consequent upon the review being allowed on the issues (A), (B), and (C) as stated above, the tariff determined for the generating station for the period 2014-19, vide the impugned order dated 19.9.2022 is modified, as stated in the subsequent paragraphs:

Additional Capital Expenditure

25. Accordingly, Paragraph 25 of the impugned order is modified as under:

“25. The matter has been considered. It is observed that the Commission vide its order dated 9.10.2018 in Petition No. 38/MP/2018 had extended the cut-off date to 31.3.2019, in respect of the Railway Siding works only; however, subsequent to our decision in para **Error! Reference source not found.** above, the additional capital expenditure claimed by the Petitioner towards Water System, Main Plant & offsite civil works are



allowed, while in respect of the other expenditures towards Land compensation Steam Turbine, TG package, and Station C&I, it was observed that the claim shall be dealt with in terms of Regulation 14(3)(i) of the 2014 Tariff Regulations as and when the arbitration cases were settled. We, however, grant liberty to the Petitioner to claim the additional expenditure on these counts after a final decision is taken in the arbitration cases, and the same will be considered in accordance with law and subject to the production of all details/supporting documents.

26. Also, Paragraphs 42, 43, and 45 of the impugned order (Un-discharged liabilities & Discharge of liabilities) are modified as under:

“42. Out of the discharge of liabilities claimed by the Petitioner, discharges amounting to Rs. 140.84 lakh in 2018-19 correspond to assets disallowed for the purpose of tariff and are accordingly not being considered for the purpose of tariff.

43. Accordingly, the discharge of liabilities of Rs.13620.35 lakh in 2014-15, Rs.10489.58 lakh in 2015-16, Rs.9021.68 lakh in 2016-17, Rs.1351.71 lakh in 2017-18 and Rs. 601.11 lakh in 2018-19 is allowed for the purpose of tariff.

44. After prudence check, the discharge of liabilities allowed as part of the additional capital expenditure, corresponding to allowed assets, are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening undischarged liabilities as on 1.4.2014	35534.49	25343.15	19707.76	12235.35	10931.60
Add: undischarged liabilities added	3429.02	4862.25	2243.27	81.55	591.63
Less: Discharges	13620.35	10489.58	9021.68	1351.71	601.11
Less: Reversals		8.06	694.01	33.59	205.21
Closing undischarged liabilities as on 31.3.2019	25343.15	19707.76	12235.35	10931.60	10716.91

27. Further, the tables under Paragraphs 61, 62, 64, 69, 74, and 76 of the impugned order are modified as under:

“61. Based on the above discussions, the additional capital expenditure claimed and allowed for the period 2014-19 is summarized as follows:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	Admitted						
1	Land	176.69	37.81	9.04	0.00	0.00	223.54
2	Main Plant Civil	5405.96	2653.69	1214.94	0.00	0.00	9274.59
3	SG	6691.87	419.97	0.00	0.00	0.00	7111.84
4	TG	552.93	200.74	0.00	0.00	0.00	753.67
5	Station C&I	0.00	120.38	0.00	0.00	0.00	120.38
6	CPU	3.06	2.85	0.00	0.00	0.00	5.91
7	Instrumentation Cables	(-)2.04	29.34	0.00	0.00	0.00	27.30
8	CHP	1478.51	2.02	0.00	0.00	0.00	1480.53
9	Railway Siding	856.85	3151.42	5274.41	0.00	0.00	9282.68
10	DM Plant	0.03	2.26	0.00	0.00	0.00	2.29
11	Pt Plant	35.69	4.36	0.00	0.00	0.00	40.05
12	CW- Civil	7.00	62.82	0.00	0.00	0.00	69.82
13	CW- Equipment	0.00	14.02	0.00	0.00	0.00	14.02
14	Cooling Tower	159.48	21.59	0.00	0.00	0.00	181.07
15	Ash Handling System	1105.00	64.41	0.00	0.00	0.00	1169.41
16	Ash Dyke	0.00	0.33	0.00	0.00	0.00	0.33
17	AWRS	0.00	7.13	0.00	0.00	0.00	7.13
18	Station Piping	0.00	36.36	0.00	0.00	0.00	36.36
19	Ac Ventilation	160.02	39.06	213.80	0.00	0.00	412.87
20	Electrical Equipment Package	0.00	153.56	0.00	0.00	0.00	153.56
21	Lt Switch Gear & Bus Duct	1261.48	0.00	0.00	0.00	0.00	1261.48
22	M V Switch Gear	0.00	185.23	0.00	0.00	0.00	185.23
23	Switch Yard	0.00	46.18	0.00	0.00	0.00	46.18
24	Out Door Transformer	43.39	0.00	0.00	0.00	0.00	43.39
25	Bus Duct	53.39	0.00	0.00	0.00	0.00	53.39
26	Power Transformers	(-)12.37	0.00	0.00	0.00	0.00	(-)12.37
27	Roads	1422.91	599.23	0.00	0.00	0.00	2022.14
28	Boundary Wall	387.22	278.46	0.00	0.00	0.00	665.68
29	Town Ship	6360.69	3901.15	3133.52	0.00	0.00	13395.36
30	Site Levelling & Other Infra	0.00	24.39	0.00	0.00	0.00	24.39
31	CHIMNEY	0.00	74.00	0.00	0.00	0.00	74.00
32	MBOA	806.20	578.77	0.00	0.00	0.00	1384.97
33	ESP	1335.71	0.00	0.00	0.00	0.00	1335.71
34	MGR	2936.53	0.00	0.00	0.00	0.00	2936.53
35	Construction Power	16.53	0.00	0.00	0.00	0.00	16.53
36	Station Lighting	212.19	0.00	0.00	0.00	0.00	212.19
37	Steel Yard	423.80	0.00	0.00	0.00	0.00	423.80
38	Communication	14.94	0.00	0.00	0.00	0.00	14.94
39	Cable Trestle	4970.81	0.00	0.00	0.00	0.00	4970.81
40	T&P	43.24	0.00	0.00	0.00	0.00	43.24
41	Temporary Structure	0.57	0.00	0.00	0.00	0.00	0.57
42	Package ERV	0.00	0.00	0.00	0.00	0.00	0.00
43	Hospital items	0.00	35.38	0.00	0.00	0.00	35.38
44	Contractors' ERV	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total (A)	36908.27	12746.89	9845.71	0.00	0.00	59500.88
B	New Claims						
1	Ash Dyke	0.00	0.00	0.74	0.00	0.00	0.74
2	Ash Handling System	0.00	0.00	70.82	0.00	0.00	70.82
3	Ash Water Recirculation	0.00	0.00	46.61	0.00	0.00	46.61



Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
	System						
4	Ash related works	0.00	0.00	0.00	7.07	22.64	29.72
5	Chimney	0.00	0.00	119.92	0.00	0.00	119.92
6	Coal Handling Plant	0.00	0.00	72.71	0.00	(-)27.60	45.11
7	CW- CIVIL	0.00	0.00	84.62	0.00	0.00	84.62
8	Electrical Equipment Package	0.00	0.00	236.35	0.00	0.00	236.35
9	Fire detection and Protection System	0.00	0.00	0.39	0.00	0.37	0.75
10	Generator Transformer	0.00	0.00	0.00	0.00	0.00	0.00
11	Pre-Treatment Plant	0.00	0.00	3.09	0.00	0.00	3.09
12	Roads	0.00	0.00	576.21	0.00	0.00	576.21
13	Steam generator Package	0.00	0.00	103.53	0.00	2.88	106.40
14	Station C&I	0.00	0.00	8.80	0.00	(-)1.23	7.58
15	Station Lighting	0.00	0.00	(-)5.89	0.00	0.00	(-)5.89
16	Station Piping	0.00	0.00	22.90	0.00	0.00	22.90
17	T&P	0.00	0.00	(-)0.16	0.00	0.00	(-)0.16
18	Turbine Generator Package	0.00	0.00	355.10	0.00	0.37	355.47
19	Package ERV	0.00	0.00	0.00	0.00	0.00	0.00
20	Switchyard/Transformer/Bus duct/Switchgear/Electrification	0.00	0.00	0.00	144.93	0.00	144.93
21	Lighting Installations and associated works	0.00	0.00	0.00	0.00	0.00	0.00
22	Offsite Civil/Roads	0.00	0.00	0.00	556.20	160.36	716.56
23	Main Plant Civil	0.00	0.00	0.00	5.11	1632.73	1637.84
24	C&I	0.00	0.00	0.00	153.91	0.00	153.91
25	Water System	0.00	0.00	0.00	8.05	14.90	22.95
26	Railway Siding & associated works	0.00	0.00	0.00	531.72	0.00	531.72
27	SG package	0.00	0.00	0.00	(-)0.04	0.00	(-)0.04
28	Township Civil	0.00	0.00	0.00	(-)0.09	0.00	(-)0.09
29	Land (ROU for makeup water)	0.00	0.00	0.00	0.00	33.28	33.28
30	Transformers & electrical package	0.00	0.00	0.00	0.00	(-)6.54	(-)6.54
	Sub Total (B)	0.00	0.00	1695.74	1406.86	1832.14	4934.74
C	Initial Spares	2845.44	2012.21	6586.52	1306.11		12750.27
D	Decapitalisation						
1	De-cap of Spares (Part of Capital Cost)	90.10	143.17	214.93	114.20	301.99	864.39
2	Decapitalisation of MBOA items (Part of Capital Cost)	16.48	7.54	62.01	0.00	0.00	86.03
	Sub Total (C)	106.58	150.71	276.93	114.20	301.99	950.42
E	Liability Discharge						
	Add. Discharge of Liabilities pertaining to allowed works for prior period	13620.35	10489.58	9021.68	1351.71	601.11	35084.43
	Sub Total (D)	13620.35	10489.58	9021.68	1351.71	601.11	35084.43
	Total Add Cap Claimed in Tariff	53267.49	25097.97	26872.71	3950.47	2131.26	111319.90
F	Exclusion not allowed	0.00	0.00	0.00	(-)284.96	(-)426.00	(-)710.96
	Net additional capitalisation allowed excluding Exclusions	53267.49	25097.97	26872.71	3665.51	1705.26	110608.95



28. The relevant paras of the impugned order stand modified as under:

Capital Cost allowed for the period 2014-19

62. Accordingly, the capital cost approved for the period 2014-19 is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	553357.85	606625.34	631723.31	658596.02	662261.53
Add: Net additional capital expenditure allowed	53267.49	25097.97	26872.71	3665.51	1705.26
Closing Capital Cost	606625.34	631723.31	658596.02	662261.53	663966.80
Average Capital Cost	579991.59	619174.33	645159.67	660428.78	663114.17

Debt-Equity Ratio

64. The gross normative loan and equity amounting to Rs. 388857.07 lakh and Rs. 164500.78 lakh, respectively as on 1.4.2014, as considered in Commission's order dated 1.2.2017 in Petition No. 328/GT/2014, has been retained for the purpose of tariff. Further, the additional capital expenditure admitted as above has been allocated in the debt-equity ratio of 70:30. Accordingly, the debt-equity ratio in respect of the generating station, as on 1.4.2014 and 31.3.2019 allowed is as follows:

(Rs. in lakh)

	Capital cost as on 1.4.2014		Additional Capital Expenditure 2014-19		Capital cost as on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt (A)	388857.07	70.27%	77426.26	70.00%	466283.33	70.23%
Equity (B)	164500.78	29.73%	33182.68	30.00%	197683.46	29.77%
Total (A+B)	553357.85	100.00%	110608.95	100.00%	663966.80	100.00%

Return on Equity

69. ROE has been tried up on the basis of the MAT rate applicable in the respective years and is allowed for the generating station as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Normative Equity-Opening (A)	164500.78	180481.03	188010.42	196072.23	197171.89
Addition of Equity due to additional capital expenditure (B)	15980.25	7529.39	8061.81	1099.65	511.58
Normative Equity-Closing (C) = (A) + (B)	180481.03	188010.42	196072.23	197171.89	197683.46
Average Normative Equity	172490.90	184245.72	192041.32	196622.06	197427.67



	2014-15	2015-16	2016-17	2017-18	2018-19
(D) = (A+C)/2					
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the year (F)	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (G) = (E)/(1-F)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) annualized (H) = (D)*(G)	33825.47	36305.62	37841.74	38744.38	39007.76

Interest on Loan

74. Interest on loan has been calculated after providing the appropriate accounting adjustment for the interest capitalized, corresponding to the admitted additional capital expenditure allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan (A)	388857.07	426144.31	443712.89	462523.79	465089.65
Cumulative repayment of loan up to previous year (B)	17557.20	47387.68	79085.85	111998.11	145607.55
Net Loan Opening (C) = (A) - (B)	371299.87	378756.64	364627.04	350525.68	319482.10
Addition due to additional capital expenditure (D)	37287.24	17568.58	18810.90	2565.86	1193.68
Repayment of loan during the year (E)	29833.25	31716.32	32943.03	33672.53	33795.83
Less: Repayment adjustment on account of de-capitalization (F)	2.77	18.14	30.77	63.09	136.31
Net Repayment (H) = (E) - (F)	29830.48	31698.18	32912.26	33609.44	33659.52
Net Loan Closing (I) = (C) + (D) - (H)	378756.64	364627.04	350525.68	319482.10	287016.26
Average Loan (J) = (C+I)/2	375028.25	371691.84	357576.36	335003.89	303249.18
Weighted Average Rate of Interest on loan (K)	8.0772%	7.7794%	7.7598%	7.6791%	7.8136%
Interest on loan (L) = (J)*(K)	30291.92	28915.37	27747.18	25725.12	23694.74
Less: Interest capitalized (M)	0.00	0.00	0.00	37.29	0.27
Net Interest on loan (N) = (L)-(M)	30291.92	28915.37	27747.18	25687.84	23694.46



Depreciation

76. Cumulative depreciation amounting to Rs. 17557.20 lakh as on 1.4.2014, as considered in order dated 1.2.2017 in Petition No. 328/GT/2014, has been retained for the purpose of tariff. Since as on 1.4.2014, the used life of the generating station is 0.53 years, which is less than 12 years from the effective station COD of 20.9.2013, depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) calculated in terms of Regulation 27 of the 2014 Tariff Regulations. The calculation of WAROD is enclosed as Annexure-I to this order. Accordingly, depreciation has been computed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Average Capital Cost (A)	579991.59	619174.33	645159.67	660428.78	663114.17
Value of freehold land included in average capital cost (B)	0.00	0.00	0.00	0.00	0.00
Aggregated Depreciable Value (C) = (A-B)*90%	521992.43	557256.89	580643.70	594385.90	596802.75
Remaining aggregate depreciable value at the beginning of the year (D) = (C) - (Cumulative Depreciation (shown at M), at the end of the previous year)	504435.23	509869.22	501557.84	482387.79	451195.20
No. of completed years at the beginning of the year (E)	0.53	1.53	2.53	3.53	4.53
Balance useful life at the beginning of the year (F) = 25 - (E)	24.47	23.47	22.47	21.47	20.47
Weighted Average Rate of Depreciation (WAROD) (G)	5.1437%	5.1224%	5.1062%	5.0986%	5.0965%
Depreciation during the year/ period (H) = (A) * (G)	29833.25	31716.32	32943.03	33672.53	33795.83
Depreciation during the year/ period (annualized) (I) = (H)	29833.25	31716.32	32943.03	33672.53	33795.83
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (J) = (I) + Cumulative Depreciation	47390.45	79103.99	112028.88	145670.64	179403.38

	2014-15	2015-16	2016-17	2017-18	2018-19
(shown at M), at the end of the previous year					
Less: Depreciation adjustment on account of de-capitalization (L)	2.77	18.14	30.77	63.09	136.31
Cumulative depreciation at the end of the year (M) = (J) + (K) - (L)	47387.68	79085.85	111998.11	145607.55	179267.07

29. Accordingly, Paragraphs 140, 142, and 144 of the impugned order are modified as under:

“140. The Petitioner has calculated GCV of 3817.01 kcal/kg, which represents the simple average of GCV received of the preceding three months after adjustment of moisture content. We have considered the weighted average GCV as received (without any adjustment of moisture content) for three months, which works out to 3817.01kcal/kg.

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142. Based on the above discussion, the cost of fuel components in working capital is worked out and allowed as follows:

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days)	16972.64	16972.64	16972.64	17381.62	17381.62
Cost of Coal towards generation (30 days)	16972.64	16972.64	16972.64	17381.62	17381.62
Cost of Secondary fuel oil 2 months	431.28	432.46	431.28	441.67	441.67

(Rs. in lakh)

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144. The Petitioner has claimed an Energy Charge Rate (ECR) ex-bus of Rs. 4.14 /kWh for the generating station based on the landed cost of coal during preceding three months, GCV of coal [on ‘as received’ basis for average of 30 months] along with the storage loss of 120 kCal/kWh & GCV and price of Oil procured and burnt for the preceding three months of 2014-19 tariff period for the generating station. Since these claims of the Petitioner have not been allowed as stated above, the allowable ECR, based on the operational norms as specified under the



2014 Tariff Regulations and on a weighted average of 'as received' GCV of 3817.01 kcal/kg, is worked out as follows:

	Unit	2014-19
Capacity	MW	1000
Gross Station Heat Rate	Kcal/kWh	2400.64
Auxiliary Energy Consumption	%	5.75
Weighted average GCV of oil (As received)	Kcal/lit	9500
Weighted average GCV of coal (As received)	Kcal/kg	3817.010
Weighted average price of oil	Rs./KL	71180.27
Weighted average price of Coal	Rs./MT	4524.75
Rate of energy charge ex-bus	Rs./kWh	3.0510

Interest on Working Capital

Working Capital for Receivables

147. Receivables equivalent to two months of capacity charge and energy charge for the sale of electricity calculated on NAPAF have been worked out duly taking into account the mode of operation of the generating station on secondary fuel, as follows:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months (A)	34846.13	34941.60	34846.13	35685.79	35685.79
Fixed Charges - for two months (B)	20551.83	21359.20	21700.66	21905.29	21961.75
Total (C) = (A+B)	55397.95	56300.80	56546.79	57591.08	57647.54

30. Accordingly, Interest on working capital, computed in the table under Paragraph 151 of the impugned order, stands modified as under:

(Rs in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Cost of Coal for 30-day Stock of coal of generation corresponding to NAPAF (A)	16972.64	16972.64	16972.64	17381.62	17381.62
Working capital for cost of Coal for 30 days generation corresponding to NAPAF (B)	16972.64	16972.64	16972.64	17381.62	17381.62
Working capital for Cost of oil for 2 months Generation corresponding to NAPAF (C)	431.28	432.46	431.28	441.67	441.67
Working capital for O & M expenses - 1 month of O&M Expenses (D)	1383.80	1523.10	1556.90	1669.44	1824.98

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Maintenance Spares - 20% of O&M expenses (E)	3321.12	3655.44	3736.55	4006.66	4379.94
Working capital for Receivables – 2 months sale of electricity on NAPAF (F)	55397.95	56300.80	56546.79	57591.08	57647.54
Total Working Capital (G) = (A+B+C+D+E+F)	94479.45	95857.09	96216.81	98472.10	99057.38
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working capital (I) = (GxH)	12754.73	12940.71	12989.27	13293.73	13372.75

Annual Fixed Charges for the period 2014-19

31. Based on the above, the annual fixed charges approved vide paragraph 152 of the impugned order stand modified as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation (A)	29833.25	31716.32	32943.03	33672.53	33795.83
Interest on Loan (B)	30291.92	28915.37	27747.18	25687.84	23694.46
Return on Equity (C)	33825.47	36305.62	37841.74	38744.38	39007.76
O&M Expenses (E)	16605.60	18277.20	18682.76	20033.28	21899.71
Interest on Working Capital (D)	12754.73	12940.71	12989.27	13293.73	13372.75
Total annual fixed charges allowed (G) = (A+B+C+D+E)	123310.97	128155.21	130203.98	131431.75	131770.51

32. The difference between the tariff determined by this order and the tariff recovered by the Review Petitioner in terms of the impugned order dated 19.9.2022 in Petition No. 393/GT/2020 shall be adjusted in terms of Regulation 8(13) of the 2014 Tariff Regulations.

33. Review Petition No. 10/RP/2023 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(Jishnu Barua)
Chairperson