CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 437/GT/2020

Coram:
Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: **14th November, 2022**

In the matter of:

Petition for approval of tariff of the Mauda Super Thermal Power Station Stage-I (1000 MW) for the period from 1.4.2019 to 31.3.2024

And

In the matter of:

NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road
New Delhi – 110 003 **...Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur – 482 008

2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, Bandra (East),
Mumbai – 400 051

3. Gujarat Urja Vikas Nigam Limited,
Vidyut Bhavan, Race Course
Vadodara – 390 007

4. Chhattisgarh State Power Distribution Company Limited,
P.O. Sundar Nagar,
Danganiya, Raipur – 492 013

5. Electricity Department,
Government of Goa, 3rd Floor, Vidyut Bhawan,
Panaji, Goa – 403 001

6. Electricity Department,
Administration of Daman & Diu,
Daman – 396 210

7. Electricity Department,
DNH Power Distribution Company Limited,
Silvasa – 396 230 **...Respondents**

Parties Present:

Shri Venkatesh, Advocate, NTPC
Shri Siddharth Joshi, Advocate, NTPC
Ms. Simran Saluja, NTPC
Shri. Sivakumar V Vepakomma, NTPC
Shri. Nitin Gaur, Advocate, MPPMCL
Shri Anurag Naik, MPPMCL

ORDER

This petition has been filed by the Petitioner, NTPC Limited for approval of tariff of Mauda Super Thermal Power Station Stage-I (1000 MW) for the 2019-24 tariff period, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

2. The generating station with a capacity of 1000 MW comprises of two units of 500 MW each, located in the State of Maharashtra. Unit-I of the generating station achieved COD on 13.3.2013 and Unit-II on 30.3.2014. The Commission vide its order dated 19.9.2022 in Petition No. 393/GT/2020 had approved the tariff of the generating station for the 2014-19 tariff period, after truing-up exercise, based on the actual additional capital expenditure incurred for the generating station for the 2014-19 tariff period. Accordingly, the capital cost and the annual fixed charges allowed by the said order dated 19.9.2022 is as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Capital Cost	553357.85	606625.34	631723.31	658596.02	661692.17
Add: Admitted Additional capital expenditure	53267.49	25097.97	26872.71	3096.15	(-)146.19
Closing Capital cost	**606625.34**	**631723.31**	**658596.02**	**661692.17**	**661545.98**
Average Capital cost	579991.59	619174.33	645159.67	660144.10	661619.07

Annual Fixed Charges allowed

(Rs. in lakh)

	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
Interest on Working Capital	11965.40	12150.30	12199.95	12484.33	12558.82
O&M Expenses	16605.60	18277.20	18682.76	20033.28	21899.71
Total	**122521.64**	**127364.80**	**129414.66**	**130576.26**	**130714.11**

Present Petition

3. The Petitioner has filed the present petition for determination of tariff of the generating station for the 2019-24 tariff period, in accordance with Regulation 9(2) of the 2019 Tariff Regulations and has claimed the capital cost and annual fixed charges as under:

Capital cost claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	666102.53	670975.93	679845.93	679845.93	679845.93
Add: Addition during the year	4873.40	8870.00	0.00	0.00	0.00
Closing capital Cost	**670975.93**	**679845.93**	**679845.93**	**679845.93**	**679845.93**
Average capital Cost	668539.23	675410.93	679845.93	679845.93	679845.93

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	35359.04	35722.48	35957.05	35957.05	35957.05
Interest on Loan	21274.00	18821.27	16338.69	14083.19	11637.67
Return on Equity	37386.55	37677.26	37831.46	37839.49	37848.24
Interest on Working Capital	9352.47	9397.38	9411.44	9403.49	9410.41
O&M Expenses	24512.85	25857.45	26774.85	27296.55	28274.25
Total	**127884.90**	**127475.84**	**126313.48**	**124579.77**	**123127.62**

4. The Respondents, CSPDCL, MPPMCL and MSEDCL have filed their replies vide affidavits dated 28.6.2021, 29.6.2021 and 30.6.2021, respectively. The Petitioner vide affidavit dated 3.11.2021 has filed its rejoinder to the replies of the Respondents. The Petitioner vide affidavits dated 12.5.2021, 29.6.2021 and 16.1.2022 has filed the

additional information and served copies to the Respondents. Though the Commission had reserved its order in the petition on 18.11.2021, the order could not be passed prior to the Chairperson, Shri P. K. Pujari demitting office. Therefore, the Petition was re-listed and heard on 24.6.2022, through virtual conferencing, and the Commission after permitting the Petitioner to submit certain additional information, reserved its order in the petition. The Petitioner vide affidavit dated 14.7.2022 submitted the additional information after serving copy on the Respondent. Accordingly, taking into consideration the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station, in this petition, on prudence check, as stated in the subsequent paragraphs.

Capital Cost

5. Regulation 19(1) of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission, after prudence check, in accordance with this regulation shall form the basis of determination of tariff for existing and new projects. Regulation 19(3) of the 2019 Tariff Regulations provides as under:

> *"(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 capitalisation and de-capitalisation 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 utilisation 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.*

6. The annual fixed charges claimed by the Petitioner is based on the opening capital cost of Rs.666102.53 lakh, as on 1.4.2019, as against the capital cost of Rs.661545.98 lakh, on cash basis, allowed as on 31.3.2019, vide order dated 19.9.2022 in Petition No. 393/GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs.661545.98 lakh, on cash basis, as on 31.3.2019 has been considered as on 1.4.2019, for determination of tariff for the 2019-24 tariff period.

Additional Capital Expenditure

7. Regulations 25 and Regulation 26 of the 2019 Tariff Regulations, provides as under:

"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 capitalisation 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 de-capitalisation 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 year-wise projected additional capital expenditure claimed by the Petitioner in respect of the generating station for the 2019-24 tariff period are as follows:

(Rs. in lakh)

Sl. No	**Head of Work/ Equipment**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**Total**
A	**Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate**						
1	Turbine Generator (Left Out Civil Works)	1989.50	0.00	0.00	0.00	0.00	1989.50
2	Station C&I Package	100.00	0.00	0.00	0.00	0.00	100.00
3	Offloaded Packages for Main Plant Civil	1440.00	0.00	0.00	0.00	0.00	1440.00
4	Water System (CW Civil)	123.00	1541.00	0.00	0.00	0.00	1664.00
5	A/C and Ventilation Packages	278.00	0.00	0.00	0.00	0.00	278.00
6	Fire Detection & Protection System	398.00	0.00	0.00	0.00	0.00	398.00
7	Electrical Equipment Supply Cum Erection	228.00	0.00	0.00	0.00	0.00	228.00
8	Railway Siding Works Balance Payments. & Deposit Amounts	94.00	0.00	0.00	0.00	0.00	94.00
9	Station Piping	22.90	0.00	0.00	0.00	0.00	22.90
10	Power Supply System	39.00	0.00	0.00	0.00	0.00	39.00

Sl. No	Head of Work/ Equipment	2019-20	2020-21	2021-22	2022-23	2023-24	Total
11	LT (Outdoor) Transformer	89.00	0.00	0.00	0.00	0.00	89.00
12	Lt Switch Gear & Bus Duct	72.00	0.00	0.00	0.00	0.00	72.00
13	Steam Generator (Left Out Civil Package)	0.00	450.00	**0.00**	**0.00**	**0.00**	450.00
	Subtotal-A	**4873.40**	**1991.00**	**0.00**	**0.00**	**0.00**	**6864.40**
B	**Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Weighted Average rate of Interest**						
14	Additional Cells for Cooling Tower	0.00	6879.00	0.00	0.00	0.00	6879.00
	Subtotal-B	**0.00**	**6879.00**	**0.00**	**0.00**	**0.00**	**6879.00**
	Total Additional Capitalisation	**4873.40**	**8870.00**	**0.00**	**0.00**	**0.00**	**13743.40**
15	Discharge of liability corresponding to allowed works	0.00	0.00	0.00	0.00	0.00	0.00
	Total additional capitalisation claimed (including discharges of liabilities)	**4873.40**	**8870.00**	**0.00**	**0.00**	**0.00**	**13743.40**

(a) Turbine Generator (left out Civil works), Station C&I package, Offloaded packages for Main Plant civil, Water System (CW civil), A/C and Ventilation Packages, Fire Detection & Protection System (FDPS), Electrical Equipment Supply cum Erection and Steam Generator (left out civil package)

9. The projected additional capital expenditure claimed by the Petitioner for the above-mentioned works is as under:

(Rs. in lakh)

Sl. No	Head of Work/ Equipment	Regulation	2019-20	2020-21	Total
1	Turbine Generator (left out Civil works)	Regulation 25(1)(a) read with Regulation 76 of the 2019 Tariff Regulations	1989.50	0.00	1989.50
2	Station C&I package		100.00	0.00	100.00
3	Offloaded packages for Main Plant civil		1440.00	0.00	1440.00
4	Water System (CW civil)		123.00	1541.00	1664.00
5	A/C and Ventilation Packages		278.00	0.00	278.00
6	Fire Detection & Protection System (FDPS)		398.00	0.00	398.00
7	Electrical Equipment Supply cum Erection		228.00	0.00	228.00
8	Steam Generator (left out civil package)		0.00	450.00	450.00

10. In justification of the same, the Petitioner has submitted that the agency M/s Era Infra Engineering Limited (EIEL) engaged for civil works pertaining to offsite, main

plant, TG package civil etc. went for arbitration and later, to NCLT. So, these packages were partly offloaded to various vendors. The Petitioner has further submitted that the Commission vide order dated 9.10.2018 in Petition No. 38/MP/2018 had allowed these works to be claimed under Regulation 14(3)(i) of the 2014 Tariff Regulations. The Petitioner has submitted that the offloaded packages are being expedited and are expected to be completed in 2019-20 and therefore, requested to allow the projected additional capital expenditure towards the said works under Regulation 25(1)(a) read with Regulation 76 of the 2019 Tariff Regulations.

11. The Respondent, CSPDCL has submitted that the cut-off date of the generating station was 29.3.2017 and the Petitioner was supposed to complete these works before the cut-off date. The Respondent has further submitted that:

i. The Petitioner has not stated when did the dispute with M/s EIEL first arise and whether track record of the vendor was properly checked by the Petitioner before engaging him as vendor or not.

ii. Whether any efforts were made by the Petitioner to resolve issue amicably.

iii. Whether vendor's financial health was properly checked before the award of the tender or not.

iv. Details about the outcome of the arbitration and whether any penalty was imposed on vendor.

12. The Respondent, MPPMCL has submitted that the Petitioner has not submitted the details of Liquidated Damages claimed from M/s EIEL for non-fulfillment of contract. It has submitted that the Petitioner may be directed to submit details of IDC and IEDC and the same may be deducted out of total claim as the same must be recovered from the defaulting contactor or borne by the Petitioner. The Respondent has submitted that the Petitioner may be directed to submit details of works asset wise/ work wise included in the original scope of work along with estimates of

expenditure liabilities recognised to be payable at future date and works deferred for execution.

13. In response, the Petitioner has clarified as follows:

a. Additional capitalization claimed in 2019-20 and 2020-21 pertaining to balance works of Main Plant and Offsite civil works and other works which were dependent on civil works, could not be completed as civil works agency M/s EIEL had gone into arbitration. The Commission in its order dated 9.10.2018 in Petition No. 38/MP/2018 had given liberty to the Petitioner to approach the Commission as and when the arbitration issue is settled.

b. The contract was awarded following the standard transparent competitive bidding procedure, duly complying with various checks and balances regarding the award of contract. The Petitioner has submitted that the works have been claimed on projection basis and hence IDC and IEDC could not be ascertained beforehand and that details of same would be provided at the time of truing up of the petition.

c. The Petitioner has already provided the details of works/ packages included in original scope of works under Form 5B and Form 5D of the Petition No. 69/GT/2013 and the same were approved by the Commission vide order dated 21.9.2015.

14. The Petitioner vide ROP of the hearing dated 24.6.2022 was directed to submit details with regard to arbitration and in response, the Petitioner vide affidavit dated 14.7.2022 has submitted that the matter is still pending.

15. The matter has been considered. It is observed that in Petition No.38/MP/2018 filed by the Petitioner for extension of the cut-off date of the generating station, the Commission vide its order dated 9.10.2018 decided the following:

Water System

"21. We have examined the matter. The matter is related to the non-capitalisation of amount to be paid to the contractor M/s NBCC due to the matter being pending with the Secretary, Department of Public Enterprises to refer the dispute to the permanent Machinery of Arbitration (PMA). Considering that the matter is pending for adjudication, the capitalisation shall be dealt with under the Regulation 14(3) (i) of the 2014 Tariff Regulations as and when the issue is settled. Accordingly, no relaxation of cut-off date is required in this issue.

xxxx

Main Plant and Off-site Civil works
xxxx

26. We have examined the matter related to delay in Main Plant & off site Civil works. The Petitioner has submitted that the delay in works related to Main Plant and off-site Civil works is due to the matter being under Arbitration as the contractor has not performed the work satisfactorily and has raised dispute in respect of the contract and invoked the Arbitration. Since the matter is pending for adjudication, the expenditure shall be considered under the Regulation 14(3) (i) of the 2014 Tariff Regulations as and when the arbitration issue is settled.

Steam Turbine, TG package and Station C&I

Xxxxx

28. We have examined the matter related to delay in works for Steam Turbine, TG package and Station C&I. The Petitioner has submitted that the fronts for Hydrogen Plant Building and other civil works could not be made available due to the arbitration proceedings by the contractor (M/s EIEL) in case of Main Plant and off-site civil works. Apart from this, some of the amount pertains to balance payment against Trial operation, PG test etc for the works which have already been completed and have already put to use. In our view, the expenditure regarding front of Hydrogen Plant building and other civil works shall be dealt with under the Regulation 14(3)(i) of the 2014 Tariff Regulations once the arbitration issue is settled.

29. Based on the above discussions, we do not find any justification to invoke provisions of "Power to Relax" as specified under Regulation 54 of the 2014 Tariff Regulations for extension of cut-off date from 31.3.2017 to 31.3.2019 for the above cited works except for Railway Siding works, where cut-off date is extended as discussed in Para 17. Expenditures for (1) Land Compensation, (2) Water system, (3) Main Plant and off site Civil works and (4) Steam Turbine, TG package and Station C&I shall be dealt with under Regulation 14(3)(i) of the 2014 Tariff Regulations as when these issues are settled as discussed in Paras 19, 21, 26 and 28, respectively."

16. Since the additional capitalization claimed now pertaining to Turbine Generator (left out Civil works), Station C&I package, Offloaded packages for Main Plant civil, Water System (CW civil), A/C and Ventilation Packages, Fire Detection & Protection System (FDPS), Electrical Equipment Supply cum Erection and Steam Generator (left out civil package) have already been offloaded and executed through other vendors and put to use. In view of the above, the additional capitalization is allowed on projected basis and the Petitioner is directed to submit relevant documentary evidence such as workwise/ item wise awarded cost to various vendors under original scope of

work along with cost of work paid to different vendors for the same work/ equipment and delay in execution of work beyond cut-off date attributable to arbitration.

(b) Railway Siding Works, Balance payments and deposit amounts

17. The Petitioner has claimed projected additional capital expenditure of Rs.94.00 lakh towards Railway Siding Works Balance payments and deposit amounts in 2019-20 under Regulation 25(1)(d) read with Regulation 76 of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that Railway siding work was awarded by to M/s RITES (M/s Rail India Technical and Economic Service), working under Ministry of Railway, Government of India. The railway siding work has already been completed with S&T system and the coal is being received by the generating station on sustainable basis. The Petitioner has submitted that as the work of railway siding involves linking of rail track and systems with the associated railways lines and systems of Chacher station of Indian Railways, the work at Chachar station were identified to be carried out by Indian Railways on deposit basis and its scope of work inter-alia included Railway's boundary, Signaling & Telecommunication (S&T), Overhead Electrification (OHE) and track works. The Petitioner has further submitted that the Railways refused to carry out the work citing that the work couldn't be taken up by them due to shortage of manpower and permitted RITES to carry out the work under its supervision. During the execution, the requirement of having bidirectional connectivity to bring loaded rakes from Nagpur end, arise due to shifting of coal linkage from Mahanadi Coal Fields (Odisha) to Western Coal Fields (Nagpur). However, the work of Railway siding could not be completed as expected due to delay in approvals from Railways as well as heavy rains in the area. The petitioner has added that the Commission vide its order dated 9.10.2018 had allowed the extension of cut-off date till 31.3.2019 for Railway siding works and the said work was finally

completed in 2018-19. It has stated that the amount claimed by the Petitioner is for balance payments of the retention amounts to be released to RITES during the contract closing process.

18. The matter has been considered. It is observed that the Commission in its order dated 9.10.2018 in Petition No. 38/MP/2018 had allowed relaxation in the capitalization of expenditure towards Railway Siding work, after the cut-off date only till 31.3.2019. The relevant portion of the order is extracted below:

> *"17. Considering the fact that delay in Railway Siding works was condoned by the Commission in the order dated 21.9.2015 based on the prudence of the claim and the Petitioner is following up regularly with the Railway/ RITES teams to complete the work and the same has been observed from the follow-up letters placed on record vide affidavit dated 20.3.2018. Accordingly, we are of the view that relaxation in capitalisation of the expenditure of railway siding work after the cut-off date should be allowed, but in no case, it shall be extended after 31.3.2019.*

19. It is evident from the submissions of the Petitioner that the said work was capitalized prior to 31.3.2019 and only the balance payments of the retention amounts to be released to RITES during the contract closing process, is pending. In our view, as the projected additional capital expenditure claimed for the said work is only towards the balance payments of the deposit amounts, the same is allowed under Regulation 25(1)(d) of the 2019 Tariff Regulations. However, the Petitioner shall, at the time of truing -up, furnish the original awarded cost and shall establish that the claimed works are the part of original scope.

(c) Station Piping, Power Supply System, LT(Outdoor) Transformer and LT Switch Gear & Bus Duct

20. The Petitioner has claimed projected additional capital expenditure of Rs.22.90 lakh towards Station Piping, Rs.39.00 lakh towards Power Supply system, Rs.89.00 lakh towards LT (Outdoor) Transformer and Rs.72.00 lakh towards LT Switch Gear & Bus Duct in 2019-20 under Regulation 25(1)(d) read with Regulation 76 of the 2019

Tariff Regulations. In justification of the same, the Petitioner has submitted the works of these packages have already been completed within cut-off date and the amount being claimed pertains to the retention amount for defect rectification, finishing works etc. The contract closing process is underway and the retention amount is expected to be released during 2019-20.

21. The matter has been considered. It is observed that the Petitioner, in justification of the said claim, has mentioned that these works were completed and capitalized within the cut-off date, but only the balance withheld payments were released to the vendors. Since the above expenditure incurred by the Petitioner pertains to original scope of work and payment to the vendors were made after completion of defect liability period against certain packages after reconciliation and closure of contracts, the said additional capital expenditure is allowed under Regulation 25(1)(d) of the 2019 Tariff Regulations, subjected to truing up. The Petitioner is directed to submit the details of un-discharged liabilities along with corresponding discharges made during the respective year of the 2019-24 tariff period, in respect of these admitted additional capital expenditure, at the time of truing up of tariff.

(d) Additional Cells for Cooling Tower

22. The Petitioner has claimed projected additional capital expenditure of Rs.6879.00 lakh towards additional cells for Cooling Towers in 2020-21 under Regulation 26(1) read with Regulation 76 of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that Letter of Award for Erection & commissioning of Cooling towers (CT) was awarded to M/s National Buildings Construction Corporations Limited (M/s NBCC). Soon after the completion of work, a

shortfall was observed in the performance of cooling towers. It has also submitted that the matter was taken up with M/s NBCC and despite continuous follow-up, M/s NBCC could not offer any solution to the performance issue. Basic factors affecting performance of the cooling towers are Area & Volume of the fills, Water distribution across fill area through nozzles and Air flow. The Petitioner has submitted that in order to improve the performance, it has made efforts to improve Air flow in cooling towers by replacing the existing fan blades with highly efficient improved profile fan blades. Even after replacement of the fan blades, design performance could not be attained. The Petitioner has further submitted that M/s NBCC did not turn up to conduct the joint Performance Guarantee (PG) test. The Petitioner then appointed other agency to conduct the PG test, wherein the performance of cooling towers did not attain the design parameters. Subsequently, M/s NBCC disputed the PG test and took the matter to Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) under Department of Public Enterprises (DoPE). The Petitioner has submitted that it has retained LD amounting to Rs.1000 lakh (approximately), for deduction subject to outcome of the matter in AMRCD. However, in order to improve the area/ volume of the fill to ensure proper water distribution, additional helper cells were installed to bring the cooling towers at design efficiency.

23. The Respondent, CSPDCL has submitted that the Petitioner has not made it clear whether putting the additional cells for Cooling Towers have achieved desired designed efficiency or not. The Respondent has further submitted that the Petitioner must recover the cost of additional cells from the vendor (M/s NBCC) and not from the beneficiary as there is no fault of beneficiaries. Further, the Respondent, has requested that till the dispute is resolved no additional capitalisation must be allowed. The Respondent, MPPMCL has submitted that additional capitalization under

Regulation 26 is very specific in nature as it allows the liability to meet award of arbitration, change in law, force majeure event etc. It has stated that the claim of Petitioner does not qualify above said provisions and that Regulation 76 and Regulation 77 may be utilized judiciously.

24. In response, the Petitioner has clarified as follows:

a. The detailed justification for claiming the works has been provided in Form-9 for 2020-21. The concerned agency for cooling towers, M/s NBCC, had taken the matter to Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) under DoPE.

b. The Liquidated Damages (LD), amounting to Rs.1000 lakh (approximately), has been retained for deduction subject to outcome of the matter in AMRCD.

c. Regulation 26(1)(a) of the 2019 Tariff Regulations allows for capitalization of works under arbitration. It can claim the said work on projection basis under Regulation 26(1)(a) read with Regulation 76 of the 2019 Tariff Regulations.

25. In response to directions vide ROP of the hearing dated 24.6.2022, the Petitioner vide affidavit dated 14.7.2022 has submitted that the additional capital expenditure towards the said work is no longer envisaged. As the works of the cooling towers are executed by NBCC, the quality, quantity and performance of these works are to be ensured by the Petitioner through the vendor/ contractor as per the provisions of contract such as LD etc. In view of this submission of the Petitioner that the work is no longer envisaged, the projected additional capital expenditure claimed by the Petitioner has not been considered.

26. Based on the above, the total projected additional capital expenditure claimed by the Petitioner and those allowed for the 2019-24 tariff period is summarized as under:

(Rs. in lakh)

		2019-20	2020-21	2021-22	2022-23	2023-24	Total
Additional Capital Expenditure under original scope of work (A)							
Turbine Generator (left out Civil works)	Claimed	1989.50	0.00	0.00	0.00	0.00	1989.50
	Approved	1989.50	0.00	0.00	0.00	0.00	1989.50
Station C&I package	Claimed	100.00	0.00	0.00	0.00	0.00	100.00
	Approved	100.00	0.00	0.00	0.00	0.00	100.00
Offloaded packages for Main Plant civil	Claimed	1440.00	0.00	0.00	0.00	0.00	1440.00
	Approved	1440.00	0.00	0.00	0.00	0.00	1440.00
Water System (CW civil)	Claimed	123.00	1541.00	0.00	0.00	0.00	1664.00
	Approved	123.00	1541.00	0.00	0.00	0.00	1664.00
A/C and Ventilation Packages	Claimed	278.00	0.00	0.00	0.00	0.00	278.00
	Approved	278.00	0.00	0.00	0.00	0.00	278.00
Fire Detection & Protection System	Claimed	398.00	0.00	0.00	0.00	0.00	398.00
	Approved	398.00	0.00	0.00	0.00	0.00	398.00
Electrical Equipment Supply cum Erection	Claimed	228.00	0.00	0.00	0.00	0.00	228.00
	Approved	228.00	0.00	0.00	0.00	0.00	228.00
Railway siding works balance payments. & deposit amounts	Claimed	94.00	0.00	0.00	0.00	0.00	94.00
	Approved	94.00	0.00	0.00	0.00	0.00	94.00
Station Piping	Claimed	22.90	0.00	0.00	0.00	0.00	22.90
	Approved	22.90	0.00	0.00	0.00	0.00	22.90
Power Supply System	Claimed	39.00	0.00	0.00	0.00	0.00	39.00
	Approved	39.00	0.00	0.00	0.00	0.00	39.00
LT(Outdoor)Transformer	Claimed	89.00	0.00	0.00	0.00	0.00	89.00
	Approved	89.00	0.00	0.00	0.00	0.00	89.00
LT Switch Gear & Bus Duct	Claimed	72.00	0.00	0.00	0.00	0.00	72.00
	Approved	72.00	0.00	0.00	0.00	0.00	72.00
Steam Generator (left out civil package)	Claimed	0.00	450.00	0.00	0.00	0.00	450.00
	Approved	0.00	450.00	0.00	0.00	0.00	450.00
Subtotal (A)	**Claimed**	**4873.40**	**1991.00**	**0.00**	**0.00**	**0.00**	**6864.40**
	Approved	**4873.40**	**1991.00**	**0.00**	**0.00**	**0.00**	**6864.40**
Additional Capital Expenditure beyond original scope of work (B)							
Additional Cells for Cooling Tower	Claimed	0.00	6879.00	0.00	0.00	0.00	6879.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (B)	**Claimed**	**0.00**	**6879.00**	**0.00**	**0.00**	**0.00**	**6879.00**
	Approved	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Decapitalization (C)							
De-capitalization	**Approved**	0.00	0.00	0.00	0.00	0.00	0.00
Discharge of liability (D)							
Discharge of liability corresponding to allowed works	**Claimed**	0.00	0.00	0.00	0.00	0.00	0.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Total Additional Capital Expenditure (E= A+B-C+D)	**Claimed**	**4873.40**	**8870.00**	**0.00**	**0.00**	**0.00**	**13743.40**
	Approved	**4873.40**	**1991.00**	**0.00**	**0.00**	**0.00**	**6864.40**

Additional Capital Expenditure eligible for ROE at normal rate:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Admitted additions in projected additional capital expenditure (A)	4873.40	1991.00	0.00	0.00	0.00	6864.40
Less: De-capitalization considered for assets (B)	0.00	0.00	0.00	0.00	0.00	0.00
Less: Un-discharged liabilities (C)	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges of liabilities (against allowed assets / works) (D)	0.00	0.00	0.00	0.00	0.00	0.00
Net projected additional capital expenditure allowed (on cash basis) (E) = (A-B-C+D)	**4873.40**	**1991.00**	**0.00**	**0.00**	**0.00**	**6864.40**

Additional Capital Expenditure eligible for ROE at Weighted Average Rate of Interest (WAROI):

27. No projected additional capital expenditure is eligible for ROE at WAROI rate.

Capital cost allowed for the 2019-24 tariff period

28. Based on above, the capital cost allowed for the purpose of tariff for the 2019-24 tariff period is as follows:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	661545.98	666419.38	668410.38	668410.38	668410.38
Additional capital expenditure	4873.40	1991.00	0.00	0.00	0.00
Closing capital cost	**666419.38**	**668410.38**	**668410.38**	**668410.38**	**668410.38**
Average capital cost	663982.68	667414.88	668410.38	668410.38	668410.38

Debt-Equity Ratio

29. Regulation 18 of the 2019 Tariff Regulations provides as follows:

"18. Debt-Equity Ratio: (1) For new projects, 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 utilisation made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, 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 a 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation."

30. The Commission vide its order dated 19.09.2022 in Petition No. 393/GT/2020 has considered gross normative loan and equity of Rs.464588.76 lakh and Rs.196957.22 lakh respectively as on 31.3.2019, the same has been retained as on 1.4.2019. The debt-equity ratio for the allowed projected additional capital expenditure

has been considered as 70:30, subject to truing up. The summary of debt and equity considered for the 2019-24 tariff period is as under :

(Rs. in lakh)

	Capital Cost as on 1.4.2019		**Additional capital expenditure during the period 2019-24**		**Capital cost as on 31.3.2024**	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	464588.76	70.23	4805.08	70.00	469393.84	70.23
Equity	196957.22	29.77	2059.32	30.00	199016.54	29.77
Total	**661545.98**	**100.00**	**6864.40**	**100.00**	**668410.38**	**100.00**

<u>Return on Equity</u>

31. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

"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 station, 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 capitalisation after cut-off date beyond the original scope 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:

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;

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;

in case of a thermal generating station, with effect from 1.4.2020 rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute; 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."

"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.

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 a generating company or a 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 a transmission licensee paying normal corporate tax including surcharge and cess:

Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;

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

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

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

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 customers, as the case may be, on year to year basis."

32. The Petitioner has claimed tariff considering the base rate of 15.50% and effective tax rate of 17.472% (i.e. MAT Rate of 15% + Surcharge of 12% + HEC of 4%) for the 2019-24 tariff period. Since, the entire equity allowed to the generating station is eligible for return on equity at normal rate of return on equity, in terms of above regulation, the rate of return on equity as claimed by the Petitioner has been

considered for the purpose of tariff, subject to truing up. Accordingly, return on equity has been has been worked out as under:

(Rs. in lakh)

		2019-20	2020-21	2021-22	2022-23	2023-24
A	Normative Equity - Opening	196957.22	198419.24	199016.54	199016.54	199016.54
B	Addition of Equity due to additional capital expenditure	1462.02	597.30	0.00	0.00	0.00
C	Normative Equity - Closing (A+B)	198419.24	199016.54	199016.54	199016.54	199016.54
D	Average Normative Equity [(A+C)/2]	197688.23	198717.89	199016.54	199016.54	199016.54
E	Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
F	Effective Tax Rate	17.472%	17.472%	17.472%	17.472%	17.472%
G	Rate of Return on Equity (Pre-tax) [E/(1-F)]	18.782%	18.782%	18.782%	18.782%	18.782%
H	**Return on Equity (Pre-tax) - annualised (DxG)**	**37129.80**	**37323.19**	**37379.29**	**37379.29**	**37379.29**

Interest on Loan

33. Regulation 32 of the 2019 Tariff Regulations provides as follows:

"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.

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.

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-capitalisation 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-capitalisation of such asset.

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.

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

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

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

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

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

34. Interest on loan has been computed as under:

(i) As stated above, gross normative loan amounting to Rs.464588.76 lakh, has been considered as on 1.4.2019;

(ii) Cumulative repayment of loan amounting to Rs.179176.36 lakh as on 31.3.2019, as considered in order dated 19.9.2022 in Petition No. 393/GT/2020, has been retained as on 1.4.2019;

(iii) Accordingly, the net normative opening loan as on 1.4.2019, works out to Rs.285412.40 lakh;

(iv) Addition to normative loan on account of additional capital expenditure approved above has been considered;

(v) Depreciation allowed has been considered as repayment of normative loan during the respective years of the 2019-24 tariff period.

(vi) The Petitioner has claimed interest on loan considering WAROI of 7.8063% for the year 2019-20, 7.7840% for the year 2020-21, 7.8154% for the year 2021-22, 8.1358% for the year 2022-23 and 8.4857 % for the year 2023-24, the same has been considered subject to truing up.

(vii) Interest on loan has been worked out as under:

(Rs. in lakh)

		2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
A	Gross Opening Loan	464588.76	468000.14	469393.84	469393.84	469393.84
B	Cumulative repayment of loan upto previous year	179176.36	213115.21	247229.49	281394.66	315559.83
C	Net Loan Opening (A-B)	285412.40	254884.93	222164.35	187999.18	153834.01
D	Addition due to additional capital expenditure	3411.38	1393.70	0.00	0.00	0.00
E	Repayment of loan during the year	33938.85	34114.28	34165.17	34165.17	34165.17
F	WAROI	254884.93	222164.35	187999.18	153834.01	119668.84
G	**Interest on Loan (G x H)**	270148.67	238524.64	205081.76	170916.59	136751.42
H	Gross Opening Loan	7.8063%	7.7840%	7.8154%	8.1358%	8.4857%
I	Cumulative repayment of loan upto previous year	**21088.62**	**18566.87**	**16027.96**	**13905.51**	**11604.38**

Depreciation

35. Regulation 33 of the 2019 Tariff Regulations provides as follows:

"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.

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.

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.

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.

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.

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.

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.*

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

36. The cumulative depreciation amounting to Rs.179176.36 lakh, the value of freehold land amounting to 'nil' and balance useful life of 19.47 years as on 31.3.2019, as considered in order dated 19.9.2022 in Petition No. 393/GT/2020, has been retained as on 1.4.2019 for the purpose of tariff. The Petitioner has submitted that the cost of IT equipment and software included in the capital cost shall be submitted at the time of truing up. Accordingly, the same has been considered as 'nil' for the present. Accordingly, the balance depreciable value before providing depreciation for the year 2019-20 works out to Rs.418408.05 lakh. Since, the elapsed life of the generating station as on 1.4.2019 is 5.53 years, which is less than 12 years from the effective station COD of 20.9.2013, the depreciation has been calculated by applying weighted average rate of depreciation (WAROD). The Petitioner has claimed tariff considering WAROD of 5.289%, however considering the rates of depreciation as specified in 'Depreciation Schedule' at Appendix-I of the 2019 Tariff Regulations, the WAROD to be considered for the purpose of tariff works out to 5.1114% (as annexed at Annexure-I), the same has been considered subject to truing up. Accordingly, depreciation is worked out and allowed as under:

(Rs. in lakh)

		2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
A	Average capital cost	663982.68	667414.88	668410.38	668410.38	668410.38
B	Value of freehold land included in 'A' above	0.00	0.00	0.00	0.00	0.00
C	Value of IT equipment and software included in 'A' above	0.00	0.00	0.00	0.00	0.00
D	Depreciable Value [(A-B-C) x 90% + C]	597584.41	600673.39	601569.34	601569.34	601569.34

		2019-20	2020-21	2021-22	2022-23	2023-24
E	Remaining depreciable value at the beginning of the year ('D' - Cumulative depreciation at the end of the preceding year)	418408.05	387558.18	354339.85	320174.68	286009.51
F	No. of completed years at the beginning of the year	5.53	6.53	7.53	8.53	9.53
G	Balance useful life at the beginning of the year (25 - F)	19.47	18.47	17.47	16.47	15.47
H	WAROD	5.1114%	5.1114%	5.1114%	5.1114%	5.1114%
I	**Depreciation during the year (A x H)**	**33938.85**	**34114.28**	**34165.17**	**34165.17**	**34165.17**
J	Cumulative depreciation at the end of the year (before adjustment for de-capitalisation) ('I' + Cumulative depreciation at the end of the preceding year)	213115.21	247229.49	281394.66	315559.83	349725.00

O&M Expenses

37. Regulation 35(1)(1) of the 2019 Tariff Regulations provides as follows:

"(35)(1) Thermal Generating Station: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(1) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations or units referred to in clauses (2), (4) and (5) of this Regulation:

(in Rs lakh/MW)

Year	200/210/ 250 MW Series	300/ 330/ 350 MW Series	500 MW Series	600 MW Series	800 MW Series and above
FY 2019-20	32.96	27.74	22.51	20.26	18.23
FY 2020-21	34.12	28.71	23.30	20.97	18.87
FY 2021-22	35.31	29.72	24.12	21.71	19.54
FY 2022-23	36.56	30.76	24.97	22.47	20.22
FY 2023-24	37.84	31.84	25.84	23.26	20.93

Provided that where the date of commercial operation of any additional unit(s)of a generating station after first four units occurs on or after 1.4.2019, the O&M expenses of such additional unit(s) shall be admissible at 90% of the operation and maintenance expenses as specified above;

xxx

Provided also that operation and maintenance expenses of generating station having unit size of less than 200 MW not covered above shall be determined on case to case basis.

38. The Petitioner has claimed normative O&M expenses in Form 3A as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
22510.00	23300.00	24120.00	24970.00	25840.00

39. The normative O&M expenses claimed by the Petitioner in terms of the said regulations, is allowed for the purpose of tariff.

Water Charges

40. The first proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

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

Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system, subject to prudence check. The details regarding the same shall be furnished along with the petition;

xxxxx."

41. The actual water charges claimed by the Petitioner and allowed by order dated 19.9.2022 in Petition No. 393/GT/2020 for the 2014-19 tariff period is as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
605.60	1267.20	602.76	656.59	1114.69

42. In terms of the first proviso to Regulations 35(1)(6) of the 2019 Tariff Regulations, water charges shall be allowed separately, based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence

check. The details furnished by the Petitioner in respect of water charges as applicable for 2018-19 are as under:

Description	Remarks
Type of Plant	Coal Based
Type of cooling water system	Closed Cycle
Consumption of Water*	13.97 MCM
Rate of Water charges*	Rs 5.28/ Cubic Meter
Total Water Charges**	1114.69 Lakh

**As per truing up petition filed for the Instant Station.*
***The water Charges from 2019-20 onwards is being claimed based on the charges for 2018-19 with escalation of 3.5% annually. Water charges works out to be 1.87 CM/MW*

43. The Petitioner has submitted that, the water charges shall be revised upwards by 3.5% every year. Therefore, the Petitioner has claimed the water charges for the 2019-24 tariff period as follows:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1153.71	1194.09	1235.88	1279.14	1323.91

44. The Petitioner in its additional submission dated 29.6.2021 has prayed for allowing the water charges of Rs.987.43 lakh in 2019-20 and Rs.956.40 lakh in 2020-21, based on the actual expenses incurred. Hence, the actual water charges incurred for 2019-20 and 2020-21 as claimed by the Petitioner is allowed. In respect of the projected water charges for 2021-22 to 2023-24, we have considered the same actual water charges of Rs.956.40 lakh of 2020-21 without any escalation. However, the Petitioner at the time of truing up shall furnish the details of actual water consumption (in cubic meters), rate (Rs/ Cubic meter) and power charges separately. The water charges allowed are subject to the truing up as per actual water charges paid after prudence check. The water charges allowed for the 2019-24 tariff period are summarised as follows:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
987.43	956.40	956.40	956.40	956.40

Security Charges

45. The second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

> *"(6) The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:*
> *xxx*
> *Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;*
> *xxx"*

46. The Petitioner has claimed total security expenses of Rs.5789.22 lakh (i.e. Rs.849.14 lakh in 2019-20, Rs.1363.36 lakh in 2020-21, Rs.1418.97 lakh in 2021-22, Rs.1047.41 lakh in 2022-23 and Rs.1110.34 lakh in 2023-24) for the 2019-24 tariff period, in terms of the second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. It has, however, not furnished any justification and the assessment of security, for the expenses claimed. The Petitioner in additional submission dated 29.6.2021 has prayed to allow actual Security expenses of Rs.907.60 lakh in 2019-20 and Rs 878.82 lakh in 2020-21, based on the actual expenses incurred. The actual security expenses for 2019-20 and 2020-21 as claimed by the Petitioner is allowed. In respect of the projected security expenses for 2021-22 to 2023-24, we have considered the same actual security expenses of Rs 878.82 lakh of 2020-21 without any escalation. However, the Petitioner shall, at the time of truing up, furnish the actual security expenses incurred along with proper justification and assessment in terms of Regulation 35(1)(6) of the 2019 Tariff Regulations.

Capital spares

47. The Petitioner has not claimed any capital spares, on projection basis, during the 2019-24 tariff period and has submitted that the same shall be claimed at the time of truing up of tariff, in terms of the last proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations, based on actual consumption of spares. Accordingly, the same has not been considered in this order. The claim of the Petitioner, if any, at the time of truing-up, of tariff, shall be considered on merits, after prudence check.

48. Accordingly, the total O&M expenses, including Water charges and Security expenses, claimed and allowed for the 2019-24 tariff period is summarized below:

(Rs. in lakh)

		2019-20	2020-21	2021-22	2022-23	2023-24
Installed Capacity (MW) (A)		1000.00	1000.00	1000.00	1000.00	1000.00
O&M Expenses under Reg.35(1) in Rs lakh / MW (B)	Claimed	22.51	23.30	24.12	24.97	25.84
	Allowed	22.51	23.30	24.12	24.97	25.84
Total O&M Expenses (in Rs lakh) (C = A x B)	Claimed	22510.00	23300.00	24120.00	24970.00	25840.00
	Allowed	22510.00	23300.00	24120.00	24970.00	25840.00
Water Charges (in Rs lakh) (D)	Claimed	1153.71	1194.09	1235.88	1279.14	1323.91
	Allowed	987.43	956.40	956.40	956.40	956.40
Security Expenses (in Rs lakh) (E)	Claimed	849.14	1363.36	1418.97	1047.41	1110.34
	Allowed	907.60	878.82	878.82	878.82	878.82
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F = C+D+E)	Claimed	**24512.85**	**25857.45**	**26774.85**	**27296.55**	**28274.25**
	Allowed	**24405.03**	**25135.22**	**25955.22**	**26805.22**	**27675.22**

Fly Ash Transportation charges

49. The Petitioner vide affidavit dated 9.4.2021 and 14.7.2022 has prayed to allow fly ash transportation charges of Rs.28.12 lakh in 2019-20 and Rs.16.38 lakh in 2020-21, based on the actual expenses incurred and Rs.3793.10 lakh in 2022-23 and

Rs.3189.66 lakh in 2023-24, based on projections. It is however noticed that the Petitioner has filed Petition No. 205/MP/2021 with regard to reimbursement of fly ash transportation charges in respect of its generating stations for 2019-24 tariff period. The Petitioner has raised issues with regard to the fly ash transportation in that petition arguing higher liability of the Respondents therein on account of interest burden and cash flow issues that may be faced by the Petitioner. The Petition has been reserved for orders. Therefore, the reimbursement of fly ash transportation charges claimed in this petition has not been considered. The same shall be governed by decision of the Commission in Petition No. 205/MP/2021.

Additional Expenditure on Emission Control System

50. The Petitioner, in terms of the Ministry of Environment and Forests and Climate Change (MOEF&CC) notification dated 7.12.2015 has submitted that it is in the process of installing the Emission Control Systems (ECS) for this generating station. It is however noticed that the Petitioner had filed Petition No. 526/MP/2020 before this Commission, for approval of additional capital expenditure on account of installation of various Emission Control Systems for this generating station in compliance with the Ministry of Environment and Forests and Climate Change, Government of India notification dated 7.12.2015 and the Commission vide its common order dated 28.4.2021 had disposed of the same with certain directions. In view of this, the claim of the Petitioner has not been considered in this order.

Operational Norms

51. The operational norms considered by the Petitioner in Form-3 of the petition is as follows:

Normative Annual Plant Availability Factor (NAPAF) %	85.00
Gross Station Heat Rate (kcal/kwh)	2412.13
Auxiliary Power Consumption %	6.25
Specific Oil Consumption (ml/kwh)	0.50

(a) Normative Annual Plant Availability Factor

52. Regulation 49(A) of the 2019 Tariff Regulations provides as follows:

> *"(A) Normative Annual Plant Availability Factor (NAPAF)*
> *(a) For all thermal generating stations, except those covered under clauses (b), (c), (d), & (e) - 85%;*
> *xxx"*

53. The Petitioner has considered NAPAF of 85% during the 2019-24 tariff period as per Regulation 49(A)(a) of the 2019 Tariff Regulations and hence, the same is allowed.

(b) Station Heat Rate

Regulation 49(C)(b) of the 2019 Tariff Regulations provides as under:

(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:

Pressure Rating (Kg/cm2)	150	170	170	247
SHT/RHT (deg.C)	535/535	537/537	535/565	565/593
Type of BFP	Electri cal	Turbi ne	Turbine Driven	Turbin e
Max Turbine Heat Rate	1955	1950	1935	1850
Minimum Boiler Efficiency				
Sub-Bituminous Indian Coal	0.86	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89	0.89
Max Design Unit Heat Rate (kCal/kWh)				
Sub-Bituminous Indian Coal	2273	2267	2250	2151
Bituminous Imported Coal	2197	2191	2174	2078

Provided also that where unit heat rate has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

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

54. The Petitioner has considered the Gross Station Heat Rate of 2412.13 kCal/ kWh. The Petitioner has further submitted that the instant station was envisaged during the period 2009-14 and equipment's including SG and TG specifications for tendering / award was stipulated considering the boiler efficiency and the turbine heat rate prescribed by the Commission in the Tariff Regulations at that time. Based on the same the Petitioner ordered the equipment through international competitive bidding. It was not possible for the Petitioner to specify the efficiency parameters at the time of finalising the contracts on the instant station as per the efficiency parameters specified in the subsequent 2019 Tariff Regulations which are more stringent. The Petitioner further has submitted that in a similar case, the Commission in its order dated 20.2.2014 in Petition No. 160/GT/2012 has considered the design parameters for computing Gross Heat Rate of the station with appropriate operating margin and has stated as under:

"161. As per the guaranteed turbine cycle heat rate of 1945 kCal/kWh and boiler efficiency of 88.5% along with the deviation of 6.5 % as per the 2009 Tariff Regulations, the Gross Heat Rate works out to 2340.59 kcal/kWh. Without the margin of Auxiliary consumption of 6.5%, the Gross Heat Rate works out as 2197.74 kcal/kWh. In light of this, achieving a GSHR of 2220 kcal/kWh as per submission of the respondents 1 to 6 is not possible. Also, the EPC contract was finalised in 2006 and there was no possibility for the petitioner to specify the Station Heat Rate as per the 2009 Tariff Regulations. In view of above, we consider a GSHR of 2340.59 kCal/kWh based on guaranteed turbine cycle heat rate 1945 kCal/kWh and boiler efficiency of 88.5% with a deviation of 6.5 % from the guaranteed design value."

55. The Petitioner, in Form-2 of the petition, has furnished the design turbine cycle heat rate and boiler efficiency of the generating station as 1932.00 kCal/kWh and 84.10% respectively. Accordingly, the unit design heat rate is worked out as 2297.27 kcal/kWh (1932.00/0.8410). However, Regulation 49(C)(b)(i) of the 2019 Tariff Regulations provides that for new thermal generating stations achieving COD on or after 1.4.2009, the Gross Station Heat Rate is = 1.05 x Design Heat Rate (kCal/kWh) (1.05 x 2297.27 = 2412.13), provided that the design heat rate shall not exceed the maximum design unit heat rate depending upon the pressure and temperature ratings of the units, as specified under the 2019 Tariff Regulations.

56. Considering the design parameters of the generating station, for the pressure rating of 170 Kg/cm^2, super heater Temperature of 537^{0}C and re-heater temperature of 565^{0}C, the maximum design unit heat rate is 2250 kCal/kWh, considering the Max Turbine Heat rate of 1935 kCal/kWh and boiler efficiency of 86%, as per the 2019 Tariff Regulations. The design heat rate of 2297.27 kCal/kWh, is more than the ceiling design heat rate of 2250 kCal/kWh, as provided in the 2019 Tariff Regulations. However, in terms of the above regulation, 1935 kCal/kWh is the maximum Turbine Heat Rate and the Petitioner has furnished the same as 1932 kcal/kWh. Further, where the boiler efficiency is below 86% for Sub-bituminous Indian coal, the same shall be considered as 86%. The boiler efficiency furnished by the Petitioner is 84.10% and therefore the Turbine ~~Cycle~~ Heat rate and boiler efficiency has been considered

as 1932 kcal/kWh and 86% respectively, for computation of design heat rate. The design heat rate of the generating station works out as 2246.51 kCal/kWh (i.e., 1932/0.86), which is lower than the ceiling design heat rate of 2250 kCal/kWh. Hence, the GSHR has been worked out as 2358.84 kCal/kWh = (1.05 x 2246.51) and the same has been considered for the purpose of tariff.

(c) Auxiliary Power Consumption:

57. Regulation 49(E)(a) of the 2019 Tariff Regulations provides for Auxiliary Power Consumption as under:

> *"49(E) Auxiliary Energy Consumption*
>
> *(a) 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:*
>
> *xxx"*

58. The generating station is 1000 MW plant with induced draft cooling tower. Therefore, the Auxiliary Power Consumption (APC) of 6.25% as claimed by the Petitioner is as per Regulation 49(E)(a) of the 2019 Tariff Regulations. Hence, the same has been allowed.

(d) Specific Oil Consumption

59. Regulation 49(D)(a) of the 2019 Tariff Regulations, provides for Secondary fuel oil consumption of 0.50 ml/kWh, for coal-based generating stations. As the Secondary fuel oil consumption considered by the Petitioner is as per the said regulations, the same is allowed for determination of tariff for the 2019-24 tariff period.

60. Based on the above, the operational norms considered for determination of energy charges for the generating station for the 2019-24 tariff period are as under:

Normative Annual Plant Availability Factor (NAPAF) (%)	85.00
Gross Station Heat Rate (kCal/kwh)	2358.84
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

Interest on Working Capital

61. Regulation 34 the 2019 Tariff Regulation 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.

*(b) **xxxxxxx***

(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."

Fuel Cost for computation of working capital

62. The Petitioner has claimed Energy Charge Rate (ECR) of 3.021 paisa/kWh and fuel component in working capital as follows:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal for 50 days	28615.51	28615.51	28615.51	28615.51	28615.51
Cost of Secondary fuel oil for 2 months	331.21	330.30	330.30	330.30	331.21

63. The Petitioner has claimed the fuel component cost in working capital and ECR based on:

a) Operational norms as per the 2019 Tariff Regulations.

b) Price and “as received” GCV of coal procured for the three months of October 2018, November 2018, and December 2018, and

c) Price and GCV of secondary fuel oil for the three months of October 2018, November 2018, and December 2018.

64. It is observed that the Petitioner in additional submission vide affidavit dated 29.6.2021 has submitted revised Form-15 indicating the opening stock of coal and coal received during the months of October, November and December 2018, separately. On perusal of the data furnished by the Petitioner, it is observed that the Petitioner, while computing the landed cost of fuel, has considered the opening stock of coal for the months of October 2018, November 2018 and December 2018 (closing stock of the coal for the previous months). It is observed that the Petitioner has not submitted separate landed price, GCV and blending ratio for computation of ECR. However, in terms of the Regulation 39 of the 2019 Tariff Regulations, the computation of ECR and associated fuel components in interest on working capital, is based on the landed price and GCV of fuel, which means that the fuel received during the specified three months (October 2018, November 2018 and December 2018) is only to be considered, without opening stock. Accordingly, the normative cost of coal for

stock of 50 days and the Petitioner claimed Transit and Handling loss has been considered for the calculation of working capital requirements Accordingly, after excluding the opening stock value, we have worked out the weighted average landed cost and weighted average GCV of coal for working out the fuel component in working capital for the months of October 2018, November 2018 and December 2018. However, the Petitioner is directed to submit actual landed price, GCV, blending ratio for each year of the 2019-24 tariff period at the time of truing up. The Fuel components in working capital are allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal towards Stock - 20 days generation corresponding to NAPAF	11192.82	11192.82	11192.82	11192.82	11192.82
Cost of Coal towards generation - 30 days generation corresponding to NAPAF	16789.23	16789.23	16789.23	16789.23	16789.23
Cost of Secondary fuel oil - 2 months generation corresponding to NAPAF	327.76	326.87	326.87	326.87	327.76

Energy Charge Rate (ECR)

65. The Petitioner has claimed ECR (ex-bus) of 3.021 Rs/kWh, based on the weighted average price, GCV of coal & oil procured and burnt for the preceding months of October 2018, November 2018 and December 2018. The ECR, as worked out, based on the operational norms specified under the 2019 Regulations and on “as received” GCV of coal for the preceding three months i.e., October 2018 to December 2018 have been considered for allowing two months of energy charge in working capital as follows:

Description	Unit	2019-24
Capacity	MW	1000.00
Gross Station Heat Rate	kCal/kWh	2358.84
Auxiliary Energy Consumption	%	6.25
Weighted average GCV of oil	kCal/lit	9560.52
Weighted average GCV of coal	kCal/kg	3666.85
Weighted average price of oil	Rs/KL	52677.96
Weighted average price of coal	Rs/MT	4273.22
Rate of energy charge ex-bus	Rs/kWh	2.954

Working capital for O&M Expenses (1 month)

66. O&M expenses for 1 month claimed by the Petitioner for the purpose of working capital (including water charges and security expenses) are as follows:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2042.74	2154.79	2231.24	2274.71	2356.19

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

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2033.75	2094.60	2162.94	2233.77	2306.27

Working capital for Maintenance Spares

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

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
4881.01	5027.04	5191.04	5361.04	5535.04

69. The difference between the claimed Working Capital for O&M expenses and Maintenance spares by the Petitioner and those allowed as above, is on account of variation in the water charges and security expenses claimed by the Petitioner and those allowed in this order.

Working capital for Receivables

70. Regulation 34(1)(a)(v) of the 2019 Tariff Regulations provides for the Receivables equivalent to 45 days of capacity charges and energy charges and is accordingly, worked out and allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Energy charge for 45 days sale of electricity calculated on NAPAF	25422.86	25422.86	25422.86	25422.86	25422.86
Fixed charge for 45 days sale of electricity calculated on NAPAF	15458.99	15250.84	14981.26	14825.48	14609.42
Total	**40881.85**	**40673.71**	**40404.12**	**40248.35**	**40032.29**

71. As per Regulation 34(2) of the 2019 Tariff Regulations, the cost of coal shall be based on landed fuel cost taking into account normative transit and handling losses in terms of Regulation 39 of the 2019 Tariff Regulations and gross calorific value of fuel as per actual weighted average for the third quarter of preceding financial year. Hence, the Petitioner is directed to furnish the details of quantity of coal as per Regulation 34(2) of the 2019 Tariff Regulations at the time of truing up of tariff. The Petitioner is also directed to submit the details strictly as provided in Forms/ Annexures attached to the 2019 Tariff Regulations.

72. The Petitioner on 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.

Rate of Interest on working capital

73. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital, subject to truing up, is considered as 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for the year 2019-20 is 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for the year 2020-21 and 10.50%

(i.e., 1 year SBI MCLR of 7.00% as on 1.4.2021 + 350 bps) for the period 2021-24.

Accordingly, Interest on working capital is allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Cost of Coal for Stock (20 days generation corresponding to NAPAF) (A)	11192.82	11192.82	11192.82	11192.82	11192.82
Working Capital for Cost of Coal towards generation (30 days generation corresponding to NAPAF) (B)	16789.23	16789.23	16789.23	16789.23	16789.23
Working capital for Cost of Oil (2 months generation corresponding to NAPAF) (C)	327.76	326.87	326.87	326.87	327.76
Working Capital for Maintenance Spares (20% of Annual O&M Expenses) (D)	4881.01	5027.04	5191.04	5361.04	5535.04
Working Capital for Receivables (45 Days of Sale of electricity at NAPAF) (E)	40881.85	40673.71	40404.12	40248.35	40032.29
Working Capital for O&M expenses (1 month of O&M Expenses) (F)	2033.75	2094.60	2162.94	2233.77	2306.27
Total Working Capital (I = A+B+C+D+E+F)	**76106.42**	**76104.27**	**76067.02**	**76152.08**	**76183.41**
Rate of Interest (G)	12.05%	11.25%	10.50%	10.50%	10.50%
Total Interest on Working Capital (H = I x G)	**9170.82**	**8561.73**	**7987.04**	**7995.97**	**7999.26**

Annual Fixed Charges

74. Accordingly, the annual fixed charges approved for the generating station for the 2019-24 tariff period is summarised as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	33938.85	34114.28	34165.17	34165.17	34165.17
Interest on Loan	21088.62	18566.87	16027.96	13905.51	11604.38
Return on Equity	37129.80	37323.19	37379.29	37379.29	37379.29
Interest on Working Capital	9170.82	8561.73	7987.04	7995.97	7999.26
O&M Expenses	24405.03	25135.22	25955.22	26805.22	27675.22
Total	**125733.12**	**123701.29**	**121514.68**	**120251.16**	**118823.32**

Application Filing fees and Publication charges

75. The Petitioner has sought reimbursement of fees paid by it for filing the tariff petition and publication expenses. The Petitioner shall be entitled for reimbursement of the tariff petition filing fees along with the publication expenses incurred in connection with the present petition, directly from the beneficiaries, on pro-rata basis, in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

76. 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 recovery of statutory taxes, levies, duties, cess etc. levied by the statutory authorities in accordance with the 2019 Tariff Regulations.

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

78. Petition No. 437/GT/2020 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S. Jha)**
Member	**Member**	**Member**

Annexure-I

Calculation of Weighted Average Rate of Depreciation

(Amount in Rs Lakh)

S. N.	Name of the Assets	Gross Block as on 01.04.2019	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation
1	**2**		**4**	**5= Col.3 X Col.4**
1	Freehold Land	0.00	0.00%	0.00
2	Leasehold Land	26383.54	3.34%	881.21
3	Land - Right of use	1225.52	3.34%	40.93
4	Roads, bridges, culverts & helipads	16935.50	3.34%	565.65
5	Main Plant Buildings	6799.29	5.28%	359.00
6	Other Buildings	25556.20	3.34%	853.58
7	Temporary erection	127.18	100.00%	127.18
8	Water supply, drainage & sewerage	6548.50	5.28%	345.76
9	Railway siding	20822.31	5.28%	1099.42
10	Earth dam reservoir	560.02	5.28%	29.57
11	Plant and machinery	568214.01	5.28%	30001.70
12	Furniture and fixtures	3400.98	6.33%	215.28
13	Other Office Equipment	236.23	6.33%	14.95
14	EDP, WP machines & SATCOM equipment	139.96	15.00%	20.99
15	Vehicles including speedboats	1.72	9.50%	0.16
16	Construction equipment	1500.00	5.28%	79.20
17	Electrical installations	12603.31	5.28%	665.45
18	Communication equipment	226.57	6.33%	14.34
19	Hospital equipment	43.82	5.28%	2.31
20	Laboratory and workshop equipment	505.50	5.28%	26.69
21	Software	55.56	15.00%	8.33
22	Capex on assets not owned by the company	0.00	5.28%	0.00
23	Capital Spares	7929.24	5.28%	418.66
	TOTAL	**699814.95**		**35770.38**
	Weighted Average Rate of Depreciation (%)			**5.1114%**