

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 246/GT/2021**

**Coram:**

**Shri Jishnu Barua, Chairperson**

**Shri Arun Goyal, Member**

**Shri Ramesh Babu V, Member**

**Date of Order: 2<sup>nd</sup> August, 2024**

**In the matter of:**

Petition for approval of tariff of Solapur Super Thermal Power Station (1320 MW) for the period 2019-24.

**And**

**In the matter of:**

NTPC Limited,  
NTPC Bhawan, Core-7,  
Scope Complex,  
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. Chattisgarh State Power Distribution Company Limited,  
P.O. Sundar Nagar, Danganiya, Raipur – 492013
4. Electricity Department of Goa,  
Vidyut Bhawan, Panaji, Goa-403001
5. DNH Power Distribution Corporation Limited,  
UT of DNH, Silvassa-396230
6. Electricity Department,  
Administration of Daman & Diu,  
Daman-396210

**...Respondents**

**Parties Present:**

Shri Karthikeyan Murugan, Advocate, NTPC



Shri. A.S. Pandey, NTPC  
Shri. Suraj Kumar, NTPC  
Shri. Sameer Agrawal, NTPC  
Shri Ravi Sharma, Advocate, MPPMCL

## ORDER

The Petitioner, NTPC Limited, has filed this Petition for the determination of the tariff of Solapur Super Thermal Power Station (2x660 MW) (in short, “the generating station”) for the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations'). The generating station, with a total capacity of 1320 MW, comprises two units of 660 MW each, and the dates of commercial operation of the units of the generating station are as under:

Unit- I	25.9.2017
Unit- II	30.3.2019

2. The Commission, vide its order dated 6.1.2020 in Petition No. 178/GT/2017, had determined the tariff of the generating station for the period 2014-19. Subsequently, the Commission vide its order dated 19.5.2024 in Petition No. 582/GT/2020 had approved the revised tariff of the generating station for the period 2014-19 after truing up exercise. Thereafter, the Commission, vide its corrigendum order dated 5.7.2024 in Petition No. 582/GT/2020, revised the tariff of the generating station approved, vide order dated 19.5.2024, after rectification of certain inadvertent errors. Accordingly, the annual fixed charges and capital cost of the generating station approved, vide the corrigendum order dated 5.7.2024 is as under:

### **Capital cost allowed**

	<i>(Rs. in lakh)</i>		
	<b>2017-18</b>	<b>2018-19</b>	
	<b>25.9.2017 to 31.3.2018</b>	<b>1.4.2018 to 29.3.2019</b>	<b>30.3.2019 to 31.3.2019</b>
Opening cost	517436.84	534176.85	883657.22
Add: Additional capital expenditure	16740.02	32076.40	0.00
<b>Closing capital cost</b>	<b>534176.85</b>	<b>566253.26</b>	<b>883657.22</b>
Average capital cost	525806.84	550215.06	883657.22



### **Annual Fixed Charges allowed**

(Rs. in lakh)

	<b>25.9.2017 to 31.3.2018</b>	<b>1.4.2018 to 29.3.2019</b>	<b>30.3.2019 to 31.3.2019</b>
Depreciation	24603.78	25766.19	43120.95
Interest on loan	24953.13	25808.58	42301.33
Return on Equity	31083.07	32613.45	52377.90
Interest on Working Capital	7919.89	8048.33	19947.62
O&M Expenses	12664.99	13568.51	25699.31
<b>Total</b>	<b>101224.87</b>	<b>105805.06</b>	<b>183447.10</b>

### **Present Petition**

3. As stated, the Petitioner has filed the present Petition for the determination of tariff of the generating station for the period 2019-24 and has claimed the annual fixed charges and capital cost, as stated below:

### **Annual Fixed Charges claimed**

(Rs. in lakh)

	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	45915.90	47585.42	49817.86	51500.10	51500.10
Interest on Loan	42016.12	40468.50	39112.28	37031.88	32945.60
Return on Equity	51156.28	53016.34	55503.56	57377.79	57377.79
Interest on Working Capital	16472.36	16562.45	16668.02	16746.66	16735.77
O&M Expenses	30220.14	31279.03	32381.78	33515.34	34693.06
<b>Total</b>	<b>185780.79</b>	<b>188911.74</b>	<b>193483.49</b>	<b>196171.77</b>	<b>193252.32</b>

### **Capital cost claimed**

(Rs. in lakh)

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Capital Cost	885762.99	930027.82	951785.83	1018311.76	1018311.76
Add: Addition during the year/period	44264.83	21758.01	66525.93	0.00	0.00
Closing Capital Cost	930027.82	951785.83	1018311.76	1018311.76	1018311.76
<b>Average Capital Cost</b>	<b>907895.41</b>	<b>940906.83</b>	<b>985048.79</b>	<b>1018311.76</b>	<b>1018311.76</b>

4. The Respondent MSEDCL and the Respondent MPPMCL have filed their replies vide affidavits dated 16.12.2021, 29.4.2022 and 29.8.2022 respectively. The Petitioner, vide affidavits dated 8.3.2022, 5.9.2022, and 5.9.2022, respectively, has filed its rejoinders to the said replies. The Petitioner has submitted certain additional information vide affidavits dated 25.5.2021, 29.6.2021, 27.1.2022 and 1.7.2022, after serving copies



on the Respondents. The Petition was heard on 20.9.2022, and the Commission, after hearing the parties, reserved its order in this Petition. Since the order in the present Petition could not be issued prior to one Member of this Commission, who formed part of the Coram demitting office, this Petition (along with Petition No. 563/GT/2020) was re-listed and heard on 6.2.2024. In compliance with the directions vide ROP hearing on 6.2.2024, the Petitioner has submitted certain additional information vide affidavit dated 21.3.2024. Subsequently, as the order in the present Petition could not be issued prior to one Member of this Commission, who formed part of the Coram, demitting office, the Petition was again re-listed and heard on 13.6.2024 and the Commission, based on the consent of the parties, reserved its order in this petition. Accordingly, in consideration of the submissions of the parties and the documents available on record and on prudence check, we proceed with the determination of the tariff of the generating station for the period 2019-24, as stated in the subsequent paragraphs.

### **Capital Cost**

5. Clause (1) of Regulation 19 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 the determination of tariff for existing and new projects. Clause (3) of Regulation 19 of the 2019 Tariff Regulations specifies the components to be considered for capital, and clause (5) of Regulation 19 of the 2019 Tariff Regulations specifies the components to be excluded from the capital cost of new and existing projects. Clauses (3) and (5) of Regulation 19 of the 2019 Tariff Regulations provide as under:

*“19. Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.*

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



- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

*Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;*

*Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.*

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

6. The annual fixed charges claimed by the Petitioner are based on the opening capital cost of Rs. 885762.99 lakhs, as against the capital cost of Rs. 883657.22 lakhs allowed on a cash basis, as on 31.3.2019, vide corrigendum order dated 5.7.2024 in Petition No. 582/GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs. 883657.22 lakhs, on a cash basis, as on 1.4.2019, has been



considered.

### **Additional Capital Expenditure for the period 2019-24**

7. Regulations 25 and 26 of the 2019 Tariff Regulations provide that the determination of tariff shall be based on admitted capital cost, including any additional capital expenditure already admitted up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the 2019-24 tariff period. Clause (1) of Regulation 24 of the 2019 Tariff Regulations provides as under:

*“24. Additional Capitalization within the original scope and upto the cut-off date*

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

*(a) Undischarged liabilities recognized to be payable at a future date;*

*(b) Works deferred for execution;*

*(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*

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

*(e) Change in law or compliance of any existing law; and*

*(f) Force Majeure events:*

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

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

*“25. Additional Capitalization within the original scope and after the cut-off date:*

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

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

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

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

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

*(e) Force Majeure events;*

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



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

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

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

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

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

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

#### 26 Additional Capitalization 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; \_

(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 addition to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernization (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-capitalization of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of decapitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalized.”

#### **Extension of the cut-off date**

9. The Petitioner, vide its additional submission dated 27.1.2022, has submitted that the capitalization of certain works under the original scope is likely to get spilled over beyond the cut-off date on account of some unforeseen circumstances beyond its control. Subsequently, it was submitted that the COD of the generating station was delayed even though maximum resources were diverted towards the COD-related activities. It has





also submitted that some of the reasons for the delay have affected the parallel activities simultaneously, thereby creating a subsumed effect on the overall delay in the execution of the additional capitalization works and that the Petitioner had made a concerted effort with all stakeholders to make sure that despite several external bottlenecks, hindrances and Force Majeure events, the additional capitalization work is completed with a minimum requirement of time extension. The Petitioner has further submitted that the prime concern of the Petitioner was to commence the commercial operation of the generating station to serve the beneficiaries at the earliest by supplying affordable and reliable power. It has stated that such non-COD related additional capitalization spilling over the cut-off date is not detrimental to the beneficiaries but, on the contrary, protects the beneficiaries from front-loading of tariff, such that no additional burden is imposed on them due to the delays in the balance works. Accordingly, the Petitioner has submitted that it should not be penalized for its work efficiency in declaring the COD at the earliest and also when the non-COD related balance works got delayed due to reasons not attributable to the Petitioner. The Petitioner has, therefore, prayed for the condonation of delay in the completion of the assets/works claimed and to allow the additional capitalization of the same during the period 2019-24, by relaxing the cut-off date beyond 31.3.2022 for 12 months, i.e., up to 31.3.2023.

10. The Petitioner, vide its additional submissions dated 27.1.2022, has further submitted that the additional capital expenditure claimed in respect of assets within the original scope of work for the generating station has spilled over beyond the year 2021-22 on account of the following unforeseen factors/reasons beyond the control of the Petitioner, viz.,

- (i) Impact of COVID – 19 Pandemic (1<sup>st</sup> wave),
- (ii) Impact of COVID – 19 Pandemic (2<sup>nd</sup> wave),
- (iii) Insolvent contractor issues (Civil Works of Main Plant, Offsite and Chimney) and





(iv) ROW issues (132 KV Transmission Lines work under Switchyard Package)

11. The Petitioner, on account of the above reasons, has prayed that the works claimed may be allowed to be capitalized during the period 2019-24 by relaxing the cut-off date by twelve (12) months, i.e., up to 31.3.2023 in the exercise of the power under Regulation 76 (Power to Relax) and Regulation 77 (Power to Remove Difficulty) of the 2019 Tariff Regulations.

12. The matter has been considered. The COD of the generating station is 30.3.2019, and hence, the cut-off date, in terms of the 2014 Tariff Regulations, is 31.3.2022. It is noticed from the records that the Commission, in its orders dated 6.1.2020 and 19.5.2024 in Petition No.178/GT/2017 and Petition No. 582/GT/2020, respectively, had considered some of the reasons furnished by the Petitioner, for time overrun of the project and had on prudence check, allowed the same for Unit-I and Unit-II respectively while determining the tariff of the generating station for the period 2014-19. Even though the Petitioner has envisaged the completion of the balance works by 2021-22, keeping in view the reasons and the above factors, the Petitioner has stated that the works could not be completed and has, therefore, sought an extension of the cut-off date of the generating station beyond 2021-22, i.e., till 31.3.2023. In this background, and keeping in view the submissions of the Petitioner that the assets/ works could not be completed by the Petitioner within the cut-off date, we, instead of extending the cut-off date, are inclined to permit the additional capitalization claims of the Petitioner, in respect of works/items after the cut-off date, but which are within the original scope of work (but could not be executed/ completed) under power to relax Regulation 76 (Power to Relax) and Regulation 77 (Power to Remove Difficulty) of the 2019 Tariff Regulations. However, it is observed that the Petitioner, in Form-9A of the main Petition, has claimed a total additional capital expenditure of Rs.132548.77 lakhs for the years 2019-20, 2020-21, and 2021-22 but has not claimed any additional capital expenditure for the year



2022-23 and 2023-24.

13. Further, it is observed that the Petitioner, vide additional submission dated 17.1.2022, has claimed an amount of Rs.32929.00 lakhs of certain spillover works beyond the cut-off date, i.e., 31.3.2022. The Petitioner further stated that these works are within the original scope, projected earlier to be capitalized within the cut-off date; however, the same was anticipated to get a spillover and projected to be capitalized in 2022-23. The details are as under:

Sl. No.	Head of Work /Equipment	Projected amount likely to be capitalized in 22-23 beyond scheduled cut-off date (Rs. in lakh)
1	Ash Handling System	5711.00
2	Coal Handling Plant	4235.00
3	MGR	3800.00
4	Switchyard Package	12783.00
5	Main Plant/Admn. Building	6200.00
6	Fire Fighting System	200.00
	Total	32929.00

14. On perusal of the above details, it is observed that the Petitioner, in Form-9A of the main Petition, has claimed a total additional capital expenditure of Rs.132548.77 lakhs for the year 2019-22. This includes projected expenditures of Rs. 4403.98 lakhs, Rs. 3084.18 lakhs, and Rs. 141.19 lakhs for the 'Ash Handling System', 'Coal Handling Plant', and 'MGR', respectively. However, in an additional submission dated 17 January 2022, the Petitioner has claimed spillover works of Rs. 5711.00 lakhs, Rs. 4235.00 lakhs, and Rs. 3800.00 lakhs for the 'Ash Handling System', 'Coal Handling Plant', and 'MGR' respectively. The spillover amounts are significantly higher than the projected amounts submitted in Form-9A, and the Petitioner has not provided reasons for this increase. Further, it is also observed that the Petitioner has not claimed any amount towards the 'Fire Fighting System' in Form-9A, but an amount of Rs.200.00 lakhs has been claimed as a spillover work for the same. Therefore, it is noticed that there has been inconsistency towards the claim of Rs.32929.00 lakhs for the above-mentioned spillover works, and justification for the same has not been furnished by the Petitioner.



15. In view of the above, the claim of the Petitioner towards the spillover works is not allowed at this stage. However, the Petitioner is directed to furnish the details such as the original Form-B, the actual expenditure incurred on the spill-over works (item-wise) with reasons and justification for the pending amount/works deferred beyond the cut-off date, reconciliation with the original investment approval, along with relevant supporting documents, duly certified by the auditor, at the time of truing up of tariff. In case the Petitioner does not justify/ establish that the works/ items fall within the original scope of work, the same will not be considered at the time of truing-up of tariff.

16. Now, we proceed to deal with the projected additional capital expenditure claimed by the Petitioner in Form-9A vide affidavit dated 23.6.2020 in respect of the generating station for the period 2019-24 as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	Additional capital expenditure claimed (actual / Projected)				
			2019-20	2020-21	2021-22	2022-23	2023-24
<b>A. Works under the original scope, change in law etc. eligible for ROE at normal rate</b>							
1	Land & Infrastructure	24(1)(b)	1460.00	1315.00	4532.48	-	-
2	WS & Lab Equipment		54.07	-	-	-	-
3	HP/LP Piping		-	58.35	-	-	-
4	Steam Generator Island		-	-	1961.23	-	-
5	CW system and External Water Supply		-	-	291.25	-	-
6	Clarification plant		159.36	-	48.16	-	-
7	Ash Handling System		1200.58	656.89	2546.51	-	-
8	Coal Handling Plant		700.50	872.00	1511.68	-	-
9	MGR		-	-	141.19	-	-
10	Switchyard Package		-	-	5520.40	-	-
11	Transformer Package		-	-	172.04	-	-
12	Lighting Package		-	-	8.32	-	-
13	Control & Instrumentation (C & I) Package (incl		-	-	275.68	-	-



	Instrumentation Cables)						
14	Main plant/Adm. Building.		2030.48	9320.65	581.76	-	-
15	Makeup water Civil		489.28	231.22	755.46	-	-
16	Ash disposal area development.		1445.00	550.00	-	-	-
17	Township & Colony.		902.50	221.00	6.06	-	-
18	Temporary Construction and enabling works		-	-	76.42	-	-
19	MBOA		751.12	10.70	-	-	-
20	Fire Fighting System		-	-	-	-	-
21	Initial Spares	24(1)(c)	-	-	11686.00	-	-
22	Discharge of undischarged liability	24(1)(a)	35071.94	8522.20	36411.29	-	-
	<b>Sub- total (A)</b>		<b>44264.83</b>	<b>21758.01</b>	<b>66525.93</b>	-	-
<b>B. Works beyond the original scope, excluding additional capitalization due to change in law eligible for RoE at the Weighted Average Rate of Interest</b>							
	<b>Sub- total (B)</b>		-	-	-	-	-
<b>Total</b>	<b>Additional capitalization claimed (A+B)</b>		<b>44264.83</b>	<b>21758.01</b>	<b>66525.93</b>	-	-

17. We may now examine the projected additional capital expenditure claimed by the Petitioner for the period 2019 – -24 tariff period as under:

**Items claimed under Regulation 24(1)(b) of the 2019 Tariff Regulations within the original scope of works and up to the cut-off date**

**Land & Infrastructure**

18. The Petitioner has claimed additional capital expenditure of Rs. 1460.00 lakh in 2019-20, Rs. 1315.00 lakh in 2020-21, and Rs. 4532.48 lakh in 2021-22 towards Land & Infrastructure works under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that Land & Infrastructure is the deferred work within the original scope of the project and is within the cutoff date of the project.

19. Respondent MPPMCL has submitted that the Petitioner has already claimed an amount of Rs.29486 lakh towards Freehold land, leasehold land, and land- right of use, as on the COD of the generating station and with a present claim for Rs. 7307 lakhs



during the period 2019-22, a total capital cost towards land equivalent to Rs. 36793 lakhs is unreasonably high and exorbitant. It has also been submitted that no proper justification for the additional capital expenditure towards Land & Infrastructure has been furnished by the Petitioner for claiming such an amount. The Petitioner, in its rejoinder, has clarified that land and related infrastructure is a basic requirement for any Power Plant. It has also been submitted that some of the works are being carried out in a gradual manner to optimally utilize the time period between the COD & the cut-off date.

20. The matter has been examined. It is observed that the additional capital expenditure claimed in respect of the works is within the original scope and within the cutoff date of the generating station (i.e., 31.3.2022). In view of this, the claim of the Petitioner is allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations.

#### ***Ash Handling System and Ash Disposal Area Development***

21. The Petitioner has claimed the additional capital expenditure of Rs. 1200.58 lakhs in 2019-20, Rs. 656.89 lakhs in 2020-21, and Rs. 2546.51 lakhs in 2021-22 towards the Ash Handling system and Rs. 1445.00 lakhs and Rs. 550.00 lakhs respectively, in 2019-20 and 2020-21 towards Ash disposal area development works, under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the Ash Handling system is the deferred work under the original scope and is within the cut-off date of the project.

22. Respondent MPPMCL has submitted that the present claim of the Petitioner is in addition to the cost already claimed in the capital cost for Rs. 885762 lakhs, as on 1.4.2019. It has also been submitted that no proper justification for the additional capital expenditure claimed towards the Ash Handling system has been furnished by the Petitioner. The Petitioner, in its rejoinder, has clarified that these are the basic works that are associated with any power plant and are completed in a phased manner. It has



also been submitted that some of the works are, therefore, carried out in a gradual manner to optimally utilize the time period between the COD and the cut-off date.

23. The matter has been considered. It is observed that the additional capital expenditure claimed in respect of the works is within the original scope of work of the project and is within the cut-off date (i.e., 31.3.2022). In view of this, the claim of the Petitioner is allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations.

### ***Coal Handling Plant***

24. The Petitioner has claimed the additional capital expenditure of Rs. 700.50 lakh in 2019-20, Rs. 872.00 lakhs in 2020-21, and Rs. 1511.68 lakhs in 2021-22 towards Coal Handling Plant works under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Coal Handling Plant (CHP) is the deferred work under the original scope and is within the cut-off date of the project.

25. Respondent MPPMCL has submitted that the claim of the Petitioner is in addition to the cost already claimed in the capital cost of Rs. 885762 lakhs as on 1.4.2019. It has also submitted that no proper justification for the additional capital expenditure towards the Coal Handling Plant has been furnished by the Petitioner. The Respondent has also stated that as the PAF of the generating station is 94.68%, 96.08%, and 91.21%, respectively, during the period 2019-22, no justification has been given by the Petitioner for any modification or alteration in the CHP. The Petitioner, in its rejoinder, has stated that these are the basic works that are associated with any power plant and are completed in a phased manner. The Petitioner has also submitted that some of the works are, therefore, being carried out in a gradual manner to optimally utilize the time period between the COD and the cut-off date.

26. The matter has been considered. It is observed that the additional capital



expenditure claimed in respect of the works is within the original scope of work of the project and is within the cut-off date (i.e., 31.3.2022). Accordingly, the claim of the Petitioner is allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations.

### ***Main Plant/Admin Building***

27. The Petitioner has claimed the additional capital expenditure of Rs. 2030.48 lakhs in 2019-20, Rs. 9320.65 lakhs in 2020-21, and Rs. 581.76 lakhs in 2021-22 towards Main Plant/Admin Building works under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the Main Plant/Admin Building is the deferred work under the original scope and is within the cut-off date of the project.

28. Respondent MPPMCL has submitted that the claim of the Petitioner is in addition to the cost already claimed in the capital cost of Rs. 25444 lakhs as on the COD of the generating station. It has also been submitted that no proper justification for the additional capital expenditure towards the Main Plant/Admin Building has been furnished by the Petitioner. The Petitioner, in its rejoinder, has stated that these are the basic works that are associated with any power plant and are completed in a phased manner. The Petitioner has also submitted that some of the works are, therefore being carried out in a gradual manner to optimally utilize the time period between the COD and the cut-off date

29. The matter has been considered. It is observed that the additional capital expenditure claimed in respect of the works, is within the original scope of work of the project and is within the cut-off date (i.e., 31.3.2022). In view of this, the claim of the Petitioner is allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations.

### ***Township & Colony***

30. The Petitioner has claimed the additional capital expenditure of Rs. 902.50 lakh in





2019-20, Rs. 221.00 lakh in 2020-21, and Rs. 6.06 lakh in 2021-22 towards Township & Colony works under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that Township & Colony is the deferred work under the original scope and is within the cut-off date of the project.

31. Respondent MPPMCL has submitted that the present claim is in addition to the cost already claimed in the capital cost for Rs. 885762 lakhs as on 1.4.2019. It has also been submitted that no proper justification for the additional capital expenditure towards Township & Colony has been furnished by the Petitioner. The Petitioner, in its rejoinder, has stated that these are the basic works that are associated with any power plant and are being completed in a phased manner. It has also submitted that some of the works are, therefore, being carried out in a gradual manner, to optimally utilize the time period between the COD and the cut-off date.

32. The matter has been considered. It is observed that the additional capital expenditure claimed in respect of the works is within the original scope of work of the project and is within the cut-off date (i.e., 31.3.2022). In view of this, the claim of the Petitioner is allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations.

### **MBOA**

33. The Petitioner has claimed MBOA amounting to Rs 751.12 lakhs in 2019-20 and Rs 10.70 lakhs in 2020-21, stating that these assets form part of the original scope of works and carried out up to the cut-off date. The Respondent MPPMCL has contended that the Petitioner has not submitted any details of the MBOA, and hence, the claim may not be allowed.

34. It is observed that the Petitioner has not furnished any details/ bifurcation of the MBOA items claimed, and hence, the claim on this count is **not allowed at present**. However, the Petitioner is granted liberty to claim the said expenses along with details



of the MBOA with the Auditor's certificate at the time of truing-up of tariff of the generating station.

**Other items claimed under Regulation 24(1)(b) of the 2019 Tariff Regulations which are within the original scope of works and up to the cut-off date**

35. The Petitioner has also claimed the additional capital expenditure of Rs. 54.07 lakhs in 2019-20 towards WS & Lab Equipment, Rs. 58.35 lakhs in 2020-21 towards HP/LP Piping, Rs. 1961.23 lakhs in 2021-22 towards Steam Generator Island, Rs. 291.25 lakhs in 2021-22 towards CW system and External Water Supply, Rs. 159.36 lakhs in 2019-20 and Rs. 48.16 lakhs in 2021-22, respectively, towards Clarification plant, Rs. 141.19 lakhs in 2021-22 towards MGR, Rs. 5520.40 lakhs in 2021-22 towards Switchyard Package, Rs. 172.04 lakhs in 2021-22 towards Transformer Package, Rs. 8.32 lakh in 2021-22 towards Lighting Package, Rs. 275.68 lakhs in 2021-22 towards C & I Package (inclusive of Instrumentation Cables), Rs. 489.28 lakhs in 2019-20, Rs. 231.22 lakhs in 2020-21 and Rs. 755.46 lakhs in 2021-22 towards Makeup water Civil, Rs. 76.42 lakh in 2021-22 towards Temporary Construction and enabling works. All the said assets/items have been claimed under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that these are the deferred works pertaining to the original scope of work. The Petitioner, in its rejoinder, has clarified that all these are the basic works that are associated with any Power Plant and have been completed in a phased manner. The Petitioner has also submitted that its initial focus was to bring the units on bar at the earliest so that COD is achieved and units start serving the beneficiaries. The Petitioner has further submitted that some of the works are, therefore, carried out in a gradual manner to optimally utilize the time period between the COD and the cut-off date.

36. The matter has been considered. The Petitioner has claimed the additional expenditure on assets that form part of the original scope of work of the project.



Accordingly, the aforesaid claims of the Petitioner, are provisionally allowed under Regulation 24(1)(b) of the 2019 Tariff Regulations. However, the Petitioner is directed to submit the documentary evidence of the reasons for the delay in the capitalization of these items/assets, at the time of truing up of tariff, and the same will be considered in accordance with law.

**Items claimed under Regulation 24(1)(c) of the 2019 Tariff Regulations within the original scope of works and up to the cut-off date**

**Initial Spares**

37. Regulation 23, read with clause (1)(c) of Regulation 24 of the 2019 Tariff Regulations, provides that initial spares shall be capitalized as a percentage of the Plant and Machinery cost up to the cut-off date as under:

*“23. Initial Spares: Initial spares shall be capitalized as a percentage of the Plant and Machinery cost, subject to following ceiling norms:*

- (a) Coal-based/lignite-fired thermal generating stations - 4.0%*
- (b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%*
- (c) Hydro generating stations including pumped storage hydro generating station - 4.0%*
- (d) Transmission system
  - (i) Transmission line - 1.00%*
  - (ii) Transmission Sub-station - Green Field - 4.00%, Brown Field - - 6.00%*
  - (iii) Series Compensation devices and HVDC Station - 4.00%*
  - (iv) Gas Insulated Sub-station (GIS) - Green Field - Brown Field - - 5.00% 7.00%*
  - (v) Communication system - 3.50% (vi) Static Synchronous Compensator - 6.00%**

*Provided that:*

- i. Plant and Machinery cost shall be considered as the original project cost excluding IDC, IEDC, Land Cost and Cost of Civil Works. The generating company and the transmission licensee for the purpose of estimating Plant and Machinery Cost, shall submit the break-up of head wise IDC and IEDC in its tariff application;*
- ii. where the generating station has any transmission equipment forming part of the generation project, the ceiling norms for initial spares for such equipment shall be as per the ceiling norms specified for transmission system under these regulations.*

*24. Additional Capitalization within the original scope and upto the cut-off date*

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

*xxx*

*(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*

*xxx.”*



38. The Petitioner has claimed an amount of Rs.11686.00 lakhs in 2021-22 under Regulation 24(1)(c) of the 2019 Tariff Regulations. The Respondent, MPPMCL, has submitted that the Petitioner has not provided the IDC and IEDC details for each head in the Plant and Machinery cost, and therefore, the initial spares claimed may be disallowed.

39. The matter has been considered. The Petitioner has claimed the initial spares for Rs. 9886.53 lakhs as on the COD of the generating station, i.e., as on 30.3.2019. The Petitioner has capitalized the initial spares amounting to Rs. 995.29 lakhs in 2017-18 and Rs. 2370.57 lakhs, on a cash basis, as additional capital expenditure towards Unit-I till 31.3.2019, in Petition No. 582/GT/2020. However, the Petitioner in the present Petition has claimed an amount of Rs. 11686.00 lakh in 2021-22 towards initial spares. It is observed that the Petitioner has projected the capitalization of a total amount of Rs. 24938.39 (9886.53+995.29+2370.57+11686.00) lakhs towards the Initial spares. Further, it is observed that the Petitioner, in Form 5B of Petition No.582/GT/2020, had submitted an estimated amount of Rs. 602447.08 lakh towards Plant & Machinery cost as on the cut-off date, excluding IDC, IEDC, land cost and cost of civil works.

40. Considering the above estimated Plant & Machinery cost as on the cut-off date, excluding IDC, IEDC, land cost, and cost of civil works, the claim of Rs. 24938.39 lakh towards initial spares in the instant Petition works out to 4.14%, which is above the ceiling limit of 4% as specified under the regulations. Therefore, in terms of Regulation 23 and Regulation 24(1)(c) of the 2019 Tariff Regulations, the additional capital expenditure for 2021-22 is limited to Rs.10845.49 lakh, and the same is **allowed**. This is, however, subject to truing-up based on the audited accounts. The Petitioner is directed to provide a complete list of spares capitalized up to the cut-off date of the generating station, with cost duly certified by the Auditor at the time of truing-up of tariff



for the period 2019-24.

### **Discharges and Undischarged liabilities**

41. The balance of undischarged liabilities, as on 31.3.2019, as per the Commission's order dated 19.5.2024 in Petition No. 582/GT/2020, is Rs. 80870.81 lakhs. The Petitioner has not claimed any additional undischarged liabilities or reversal of liabilities during the period 2019-24. The Petitioner has, however, claimed, on the projected basis, the discharges of liabilities during the period 2019-24 in terms of Regulation 24(1)(a) of the 2019 Tariff Regulations. It has also provided the details of the discharges of liabilities in Form-S to substantiate its claim. Accordingly, the discharge of liabilities allowed, as part of the additional capital expenditure corresponding to the allowed assets, are as under:

	<i>(Rs in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Un-discharged liabilities (a)	80870.81	45798.87	37276.67	865.38	865.38
Addition during the year (b)	0.00	0.00	0.00	0.00	0.00
Discharges during the period (c)	35071.94	8522.20	36411.29	0.00	0.00
Reversal of liabilities out of liabilities added during the period (d)	0.00	0.00	0.00	0.00	0.00
Total (Discharges + Reversal) (e)=(c)+(d)	35071.94	8522.20	36411.29	0.00	0.00
Closing Un-discharged liabilities (f) = (a)+(b)-(e)	45798.87	37276.67	865.38	865.38	865.38

42. Accordingly, the projected undischarged liability of Rs. 865.38 lakh, as on 31.3.2024, is allowed, subject to truing-up. The Petitioner is, therefore, directed to submit the detailed reconciliation of the discharges, additions, reversal of liabilities, and liquidated damages collected from the vendors at the time of truing-up of tariff. Accordingly, the additional capital expenditure allowed for the generating station for the period 2019-24 is summarized below:

		<i>(Rs. in lakh)</i>					
S. No	Head of Work /Equipment	Regulation	Additional Capital Expenditure allowed				
			2019-20	2020-21	2021-22	2022-23	2023-24
<b>A. Works under the original scope, change in law etc. eligible for ROE at normal rate</b>							
1	Land & Infrastructure	24(1)(b)	1460.00	1315.00	4532.48	-	-



2	WS & Lab Equipment		54.07	-	-	-	-
3	HP/LP Piping		-	58.35	-	-	-
4	Steam Generator Island		-	-	1961.23	-	-
5	CW system and External Water Supply		-	-	291.25	-	-
6	Clarification plant		159.36	-	48.16	-	-
7	Ash Handling System		1200.58	656.89	2546.51	-	-
8	Coal Handling Plant		700.50	872.00	1511.68	-	-
9	MGR		-	-	141.19	-	-
10	Switchyard Package		-	-	5520.40	-	-
11	Transformer Package		-	-	172.04	-	-
12	Lighting Package		-	-	8.32	-	-
13	Control & Instrumentation (C & I) Package (incl Instrumentation Cables)		-	-	275.68	-	-
14	Main plant/Admn. Building		2030.48	9320.65	581.76	-	-
15	Makeup water Civil		489.28	231.22	755.46	-	-
16	Ash disposal area development.		1445.00	550.00	-	-	-
17	Township & Colony.		902.50	221.00	6.06	-	-
18	Temporary Construction and enabling works		-	-	76.42	-	-
19	MBOA		0.00	0.00	-	-	-
20	Fire-fighting System					-	
21	Initial Spares	24(1)(c)	-	-	10845.49	-	-
22	Discharge of undischarged liability	24(1)(a)	35071.94	8522.20	36411.29	-	-
<b>Total Additional Capital expenditure allowed (A+B)</b>			<b>43513.71</b>	<b>21747.31</b>	<b>65685.42</b>	<b>-</b>	<b>-</b>

**Capital Cost allowed for the period 2019-24**

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



(Rs .in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital cost	883657.22	927170.93	948918.24	1014603.66	1014603.66
Add: Additions during the year (projected)	43513.71	21747.31	65685.42	0.00	0.00
<b>Closing Capital Cost</b>	<b>927170.93</b>	<b>948918.24</b>	<b>1014603.66</b>	<b>1014603.66</b>	<b>1014603.66</b>
Average Capital Cost	905414.08	938044.59	981760.95	1014603.66	1014603.66

### **Debt Equity Ratio**

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

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

*Provided that:*

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

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

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

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

*(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.”*

*(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:*

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

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

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

*Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation*





45. The gross normative loan and equity of Rs. 618560.05 lakhs and Rs. 265097.17 lakhs, respectively as on 31.3.2019, as approved by the Commission, vide its corrigendum order dated 5.7.2024 in Petition No. 582/GT/2020, has been retained as on 1.4.2019. Further, the projected additional capital expenditure approved above has been allocated to debt and equity in debt: equity ratio of 70:30. The details of the normative debt and equity considered during the period 2019-24 is as under:

	<b>Capital cost as on 1.4.2019 (Rs. in lakh)</b>	<b>(%)</b>	<b>Additional capital expenditure (Rs. in lakh)</b>	<b>(%)</b>	<b>Capital cost as on 31.3.2024 (Rs. in lakh)</b>	<b>(%)</b>
Debt	618560.05	70.00	91662.50	70.00	710222.56	70.00
Equity	265097.17	30.00	39283.93	30.00	304381.10	30.00
<b>Total</b>	<b>883657.22</b>	<b>100.00</b>	<b>130946.44</b>	<b>100.00</b>	<b>1014603.66</b>	<b>100.00</b>

### **Return on Equity**

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

*“30. Return on Equity:*

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

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

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

*Provided further that:*

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

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

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

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

*(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental*



ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:  
Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019

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

*"31. Tax on Return on Equity:*

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e., income from business other than business of generation or transmission as the case may be) shall be excluded for the calculation of effective tax rate.

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

Rate of pre-tax return on equity = Base rate / (1-t)

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

**Illustration-**

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

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

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

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1000 crore.

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

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

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

The generating company or the transmission licensee as the case may 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 trueing up shall be recovered or refunded to beneficiaries or the long-term transmission customers as the case may be on year to year basis.

48. The Petitioner has claimed the Return on Equity (ROE) considering the base rate of 15.50% and the effective tax rate of 17.472% for the opening equity as on 1.4.2019 and the projected additional capital expenditure claimed within the original scope of



work, change in law, etc., for the period 2019-24. The same has been considered for the purpose of tariff. Accordingly, ROE has been worked out as under:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Notional Equity- Opening (A)	265097.17	278151.28	284675.47	304381.10	304381.10
Addition of Equity due to additional capital expenditure (B)	13054.11	6524.19	19705.62	0.00	0.00
Normative Equity – Closing (C) = (A+B)	278151.28	284675.47	304381.10	304381.10	304381.10
Average Normative Equity (D) = (A+C)/2	271624.22	281413.38	294528.28	304381.10	304381.10
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate (F)	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre- tax) (G) = (E)/(1-F)	18.782%	18.782%	18.782%	18.782%	18.782%
<b>Return on Equity (Pre-tax) (annualized) (H) = (DxG)</b>	<b>51016.46</b>	<b>52855.06</b>	<b>55318.30</b>	<b>57168.86</b>	<b>57168.86</b>

### Interest on loan

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

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

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

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

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

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

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

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

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

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

50. Accordingly, Interest on the loan has been worked out as under:



- (i) The gross normative loan of Rs. 618560.05 lakh has been considered as on 1.4.2019.
- (ii) Cumulative repayment of Rs. 38532.40 lakh as on 31.3.2019, as considered in corrigendum order dated 5.7.2024 in Petition No. 582/GT/2020, has been retained as on 1.4.2019.
- (iii) Addition to the normative loan on account of additional capital expenditures approved above has been considered.
- (iv) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2019-24.
- (v) The Weighted Average Rate of Interest (WAROI) as claimed by the Petitioner has been considered. This is subject to truing-up.

51. The necessary calculation of interest on the loan is as under:

	<i>(in Rs lakh)</i>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross normative loan - Opening <b>(A)</b>	618560.05	649019.65	664242.77	710222.56	710222.56
Cumulative repayments of loan during the year <b>(B)</b>	38532.40	82681.79	128422.30	176294.48	225768.12
Net normative loan – Opening <b>(C= A-B)</b>	580027.65	566337.86	535820.47	533928.08	484454.43
Addition due to additional capitalisation during the year <b>(D)</b>	30459.60	15223.12	45979.79	0.00	0.00
Repayments of loan during the year <b>(E)</b>	44149.39	45740.51	47872.18	49473.64	49473.64
Net normative loan – Closing <b>(F = C+D-E)</b>	566337.86	535820.47	533928.08	484454.43	434980.79
Average normative loan <b>[G = (C+F)/2]</b>	573182.76	551079.17	534874.27	509191.26	459717.61
WAROI <b>(H)</b>	7.3188%	7.3520%	7.3431%	7.3292%	7.2605%
<b>Interest on Loan - annualised (I= GxH)</b>	<b>41950.10</b>	<b>40515.34</b>	<b>39276.35</b>	<b>37319.65</b>	<b>33377.80</b>

### Depreciation

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

*“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units: Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*

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

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



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

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

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

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

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

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

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

*(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.*

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

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

53. Cumulative depreciation and freehold land amounting to Rs. 38532.40 lakh and Rs. 52395.57 lakh (on a cash basis), as on 31.3.2019, as considered in the corrigendum order dated 5.7.2024 in Petition No. 582/GT/2020, has been retained as on 1.4.2019. Further, the value of IT equipment and software amounting to Rs.628.94 lakhs has been considered. Since, as on 1.4.2019, the used life of the generating station from the effective station COD (27.6.2018) is less than 12 years, depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) for the period 2019-24. WAROD, as claimed by the Petitioner has been considered after adjusting an amount of Rs. 33197.00 lakhs in respect of the Land transferred to Plant & Machinery cost in the books of accounts by the Petitioner, as done in order dated 19.5.2024 in Petition No. 582/GT/2020 and also considering the rate of depreciation





corresponding to land (right of use) as 3.34% as against 4% claimed by the Petitioner.

Necessary calculations in support of depreciation are as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Average capital cost (A)	905414.08	938044.59	981760.95	1014603.66	1014603.66
Value of freehold land included in 'A' above (B)	52395.57	52395.57	52395.57	52395.57	52395.57
Value of IT equipment & software included in 'A' above (C)	628.94	628.94	628.94	628.94	628.94
Depreciable Value [D = (A-B-C) x 90% + C]	767779.55	797147.01	836491.73	866050.17	866050.17
Balance useful life at the beginning of the year (E)	25.00	24.00	23.00	22.00	21.00
Remaining depreciable value at the beginning of the year (F = D - 'J' of the preceding period)	729247.15	714465.22	708069.44	689755.69	640282.05
Weighted Average Rate of Depreciation (G)	4.8762%	4.8762%	4.8762%	4.8762%	4.8762%
Depreciation during the year (H = AxG)	<b>44149.39</b>	<b>45740.51</b>	<b>47872.18</b>	<b>49473.64</b>	<b>49473.64</b>
Cumulative depreciation at the end of the year (J = H + 'J' of preceding period)	82681.79	128422.30	176294.48	225768.12	275241.77

### **Operation & Maintenance Expenses**

54. Regulation 35(1)(a) of the 2019 Tariff Regulations provides for the following O&M expense norms for coal-based generating stations of 600 MW series:

<i>(Rs. in lakh/MW)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
20.26	20.97	21.71	22.47	23.26

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

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Operation & Maintenance Expenses under Regulation 35(1)(1) of the 2019 Tariff Regulations	26743.20	27680.40	28657.20	29660.40	30703.20
<b>O&amp;M expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations:</b>					
-Water Charges	2119.27	2193.44	2270.21	2349.67	2431.91
-Capital Spares consumed	0.00	0.00	0.00	0.00	0.00
-Security Expenses	1357.67	1405.19	1454.37	1505.27	1557.96
<b>Total O&amp;M Expenses</b>	<b>30220.14</b>	<b>31279.03</b>	<b>32381.78</b>	<b>33515.34</b>	<b>34693.06</b>

56. The normative O&M expenses claimed by the Petitioner are in terms of Regulation 35(1)(1) of the 2019 Tariff Regulations and hence allowed for the purpose of tariff.



## Water Charges

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

*“35(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 and considering the norms of specific consumption notified by Ministry of Environment and Forest and Climate Change.”*

58. In terms of the above proviso, water charges are to be allowed based on the water consumption depending upon the type of plant, type of cooling water system, etc., subject to prudence check. The Petitioner has claimed water charges based on the actual water consumption of the generating station. The details of the water charges for 2018-19 as submitted by the Petitioner is as under:

	<b>Remarks</b>
Type of Plant	Coal based Thermal Power Plant
Type of cooling water system	Closed Circuit Cooling System
Allocation of Water (in MCM)	51.10
Rate of Water charges (in Rs /m <sup>3</sup> )	5.280
Total Water charges paid in 2018-19 (in Rs. Lakh)	2047.60

59. The actual water charges claimed by the Petitioner in Petition No. 582/GT/2020 for the period 2014-19 and allowed by order dated 19.5.2024 is as under:

**(Rs. in lakh)**

	<b>2017-18</b>	<b>2018-19</b>
Water Charges Claimed	1907.74	2047.60
Water Charges Allowed	1246.99	1437.71

60. The Petitioner has claimed the water charges vide Form 3A for the period 2019-24, based on the water charges claimed for 2018-19 with an annual escalation of 3.50%, which are as under:

**(Rs. in lakh)**

<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
2119.27	2193.44	2270.21	2349.67	2431.91

61. The Petitioner, vide additional submission dated 29.6.2021, has submitted that





the water charges claimed were on an estimated basis, and the actual water charges incurred for the period 2019-21 are as under:

<i>(Rs. in lakh)</i>	
<b>2019-20</b>	<b>2020-21</b>
2049.10	2933.82

62. The Petitioner has also indicated that the actual water charges paid for 2018-19 were settled in 2019-20 and therefore, the same has been revised from Rs. 2047.60 lakh to Rs. 1990.11 lakh.

63. Respondent MSEDCL has objected to the claim of the Petitioner and submitted that the Petitioner has not provided any valid justification for the escalation of 3.5% every year over the water charges and without any further administrative and scientific proof and hence may be disallowed. It has also submitted the escalation of water charges needs to be considered on a lower side and the cost may be further brought down. The Petitioner, vide its rejoinder, has submitted that in compliance with Regulation 35(1)(6) of the 2019 Tariff Regulations, the details in respect of water charges, such as the type of cooling water system, rate of water charges, have been furnished in para 9 of the petition and hence, the same may be allowed.

64. Respondent MPPMCL has also objected to the rate of Rs. 5.280 per cubic meter claimed by the Petitioner for the tariff period on the ground that there is an excess allocation of water for the generating station at 51.10 MCM. It has also submitted that the MOEF&CC notification dated 28.6.2018 has made it mandatory for all power plants installed after 1.1.2017 to meet the specific water consumption of 3.0 m<sup>3</sup> /MWh, and therefore, the allocation for the generating station for 51.10 MCM is too high. The Respondent has, therefore, prayed that the Commission may direct the Petitioner to submit proper justification for getting the allocation of 51.10 MCM water for the Plant capacity of 1320 MW and to revise the water allocation to 35 MCM. It has further



submitted that the water charges may be allowed in proportion to the actual PLF, limiting to the restriction prescribed by the MOEF&CC. The Respondent has stated that the water charges are not only excessive but also without any logical explanation, and therefore, the excessive allocation of water and the claim for water charges may be disallowed.

65. The Petitioner, in its rejoinder, has submitted that the allocation of 51.10 MCM had been provided by the Petitioner in order 6.1.2020 in Petition No. 178/GT/2017 and the same was allowed by the Commission. The Petitioner has also submitted that as detailed in para 21 of Petition No. 582/GT/2020 for the period 2014-19, the Petitioner continuously strives to optimize the water consumption, and accordingly, the Petitioner, based on clause 11(ii) of the water agreement has revised the quantity from 52.1 MCM to 43.1 MCM for 5 years starting from June 2022, considering all the technical aspects of Plant operation and duly considering the evaporation losses and line losses, etc. The Petitioner has added that the actual water charges may be allowed for the normative annual plant availability of 85%.

66. The matter has been examined. In terms of the proviso to Regulation 35 (6) of the 2019 Tariff Regulations, the Petitioner is entitled to the claim of the actual water charges incurred. The Petitioner has claimed the water charges for Rs. 2119.27 lakhs and Rs. 2193.44 lakhs for the years 2019-20 and 2020-21, respectively. However, the Petitioner, in its additional submission vide affidavit dated 29.6.2021, has submitted that actual water expenses incurred are Rs. 2049.10 lakh and Rs 2933.82 lakh during the years 2019-20 and 2020-21. The Commission, vide its order dated 19.5.2024 in Petition No.582/GT/2020, had allowed the water charges only to the tune of Rs 1437.71 lakh in 2018-19, after excluding the pre-commissioning expenses, domestic water charges, and power charges. Considering the above submissions of the Petitioner, the rate of water



charges effective for the period 2019-24 is Rs. 5.280 per cubic meter, and also considering the actual water consumption for the period 2018-19, we provisionally allow the water charges for the period 2019-24 as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1437.71	1437.71	1437.71	1437.71	1437.71

67. The Petitioner shall, at the time of truing up of tariff, furnish the details of the actual water consumption (in cubic meters), rate (Rs/ cubic meter), etc., separately along with the charges incurred, clearly bifurcating the water charges paid, the quantum used for the generating station and for the domestic/ township purposes. The Petitioner is also directed to submit the excel sheet showing the detailed working of water charges. The water charges allowed, as above, are subject to the truing up, as per actual water charges paid and the ceiling limit of water consumption as per Regulation 35 of the 2019 Tariff Regulations, on prudence check.

### **Security Expenses**

68. The second proviso to Regulation 35(6) of the 2019 Tariff Regulations provides for the claim for Security expenses as under:

*“35(6) The Water Charges, Security Expenses and Capital Spares for thermal generatingstations shall be allowed separately after prudence check:  
xxxx;  
Provided further that the generating station shall submit the assessment of the securityrequirement and estimated expenses;  
xxxx”*

69. The security expenses claimed by the Petitioner vide Form 3A are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1357.67	1405.19	1454.37	1505.27	1557.96

70. The Petitioner has submitted that the security expenses have been claimed, based on the estimated expenses for the period 2019-24, and are subject to adjustment, based on actuals, at the time of truing up of tariff. The Petitioner, has, vide affidavit dated 29.6.2021, submitted the actual security expenses incurred for the years 2018-19, 2019-



20, and 2020-21 as Rs. 753.14 lakhs, Rs. 1513.88 lakhs and Rs. 1606.89 lakhs, respectively. The Petitioner has further submitted that there was additional deployment (around 50%) of Security persons from 2018-19 to 2019-20, and there was a wage revision for Township security by around 30%.

71. The Respondents have submitted that a prudence check may be done for the security expenses on the basis of the actual security expenses incurred. The Respondent MPPMCL has submitted that the Petitioner has not submitted any details of the security requirements at the generating station and that the expenses claimed are much higher as compared to the expenses in respect of Sipat STPS Stage- I of the Petitioner.

72. The matter has been considered. The Petitioner has claimed the total Security expenses of Rs. 7280.46 lakhs (i.e., Rs. 1357.67 lakhs in 2019-20, Rs. 1405.19 lakhs in 2020-21, Rs. 1454.37 lakhs in 2021-22, Rs.1505.27 lakhs in 2022-23 and Rs. 1557.96 lakhs in 2023-24) 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 its additional submission, vide affidavit dated 29.6.2021, has however, prayed to allow the Security expenses for Rs. 1513.88 lakh in 2019-20 and Rs.1606.89 lakh in 2020-21 based on the actual expenses incurred. From the perusal of the above details, it is evident that there is an escalation of expenses amounting to 50.25% from 2018-19 to 2019-20 and 5.79 % from 2019-20 to 2020-21. The escalation with respect to the security expenses for 2019-20 is noticed to be very high. However, the variation is reasonable considering the fact that the COD of the generating station is 30.3.2019, and it is a new station. The Petitioner has submitted that there was additional deployment (around 50%) of Security persons from 2018-19 to 2019-20, and there was also a wage revision for the Township security by around 30%. Considering



the actual expenditure incurred towards the Security expenses for the period 2019-20 and 2020-21, we allow the security expenses for the period 2021-24 by considering the security expense of 2020-21 as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1513.88	1606.89	1606.89	1606.89	1606.89

73. The Security expenses allowed as above is subject to the assessment of the security requirement along with the expenses, to be furnished by the Petitioner at the time of truing-up of tariff.

### **Capital Spares**

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

75. Accordingly, the total O&M expenses allowed to the generating station for the period 2019-24 are summarized below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations <b>(a)</b>	26743.20	27680.40	28657.20	29660.40	30703.20
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations <b>(b)</b>	26743.20	27680.40	28657.20	29660.40	30703.20
Water Charges claimed under Regulation 35(6) of the 2019 Tariff Regulations <b>(c)</b>	2049.10	2933.82	2270.21	2349.67	2431.91
Water Charges allowed under Regulation 35(6) of the 2019 Tariff Regulations <b>(d)</b>	1437.71	1437.71	1437.71	1437.71	1437.71
Security Expenses claimed under Regulation 35(6) of the 2019 Tariff Regulations <b>(e)</b>	1513.88	1606.89	1454.37	1505.27	1557.96



Security Expenses allowed under Regulation 35(6) of the 2019 Tariff Regulations (f)	1513.88	1606.89	1606.89	1606.89	1606.89
<b>Total O&amp;M expenses claimed (a +c +e)</b>	<b>30220.14</b>	<b>31279.03</b>	<b>32381.78</b>	<b>33251.34</b>	<b>34693.07</b>
<b>Total O&amp;M expenses allowed (b +d +f)</b>	<b>29694.79</b>	<b>30725.00</b>	<b>31701.80</b>	<b>32705.00</b>	<b>33747.80</b>

### **Fly Ash Transportation Expenses**

76. The Petitioner, vide an additional affidavit dated 25.5.2021, has submitted the actual fly ash transportation expenses incurred during the years 2019-20 and 2020-21 after adjusting the ash sales as 'nil'. It has further, vide affidavit dated 1.7.2022, submitted the projected expenses for fly ash transportation charges in 2022-23 and 2023-24 as under:

Year	Expected Ash Generation	Utilization in Ash (in any other Product Manufacturing)	Avenues (Cement mfg., ready mix concrete, some bricks, AAC blocks mfg.)	Total Utilization	Estimated Ash utilization in %	Ash Disposal Cost
	(Lakh Ton)	(Lakh Ton)		(Lakh Ton)		(Rs. Lakhs)
2022-23	12.75	3.40	7.18	10.58	83%	82.60
2023-24	12.75	3.74	8.06	11.80	93%	66.08

77. It is pertinent to mention that in Petition 205/MP/2021, filed by the Petitioner for recovery of the additional expenditure incurred due to Fly Ash transportation charges for the period 2019-24, consequent to the Ministry of Environment and Forest & Climate Change, GOI notifications dated 3.11.2009, notification dated 25.1.2016, and Notification dated 31.12.2021 the Commission has observed as under:

*“25. Thus, the MOEF & CC notifications dated 25.1.2016 and 31.12.2021, has created an absolute obligation on the Petitioner, for timely disposal of fly ash. In other words, while the notification dated 25.1.2016 (which was declared as a change in law event during the period 2014-19), was necessarily required to be complied by the Petitioner during the period from 1.4.2019 till 30.12.2021, the issuance of notification dated 31.12.2021, was also required to be complied by the Petitioner from 31.12.2021 till 31.3.2024, as the same is a change in law event in terms of the above provision. Though the Respondents MSEDCL and BRPL have submitted that the notification dated 31.12.2021 is required to be reviewed in terms of the order dated 10.5.2022 of the Hon’ble Supreme Court, we notice that the said notification is still valid and subsisting. In this background, we hold that the Petitioner is entitled to seek additional cost towards fly ash transportation charges during the period 2019-24, in terms of compliance to MOEF&CC Notification dated 25.1.2016 and as a change in law in terms of the MOEF&CC Notification dated 31.12.2021.*

Xxx



29. It is pertinent to mention that the Commission while fixing the O&M expense norms for the 2019-24 tariff period, had not considered/included the expenses incurred on account of transportation of fly ash. Accordingly, we, in exercise of the regulatory power under section 79(1)(a) of the Act, hold that **the additional expenditure incurred by the Petitioner towards fly ash transportation cost for the period 2019-24, is admissible as additional O&M expenses, as the same is in terms of the MOEF&CC notifications dated 25.1.2016 and 31.12.2021, as stated in para 25 above.**

Xxx

43. In the light of the above discussion and keeping in view that the Petitioner is entitled for recovery of fly ash transportation charges, under change in law, as additional O&M expenses, **we permit the provisional billing at 90% of the fly ash transportation charges incurred by the Petitioner, in respect of its generating stations, for the balance period (i.e. 2022-24), on a monthly basis, based on self -certification, and the beneficiaries shall pay the same accordingly. This is, however, subject to prudence check of the claims, at the time of truing-up of tariff for the period 2019-24, in respect of the generating stations of the Petitioner, in terms of Regulation 13 of the 2019 Tariff Regulations.**

44. We direct that the fly ash transportation cost incurred by the Petitioner, shall be recovered, in proportion to the coal consumed corresponding to the scheduled generation at normative parameters in accordance with the 2019 Tariff Regulations or at actuals, whichever is lower, for the supply of electricity to the respective Discoms. If the actual generation is less than the scheduled generation, the coal consumed for actual generation shall be considered for the purpose of computation of transportation of fly ash. The Petitioners are directed to furnish along with its monthly regular and/or supplementary bill(s), computations duly certified by the auditor, to the Respondent Discoms. The Petitioners and the Respondent Discoms are also directed to carry out reconciliation in respect of the claims, annually and the same is subject to truing-up, in terms of Regulation 13 of the 2019 Tariff Regulations.”

78. Thus, the claim of the Petitioner shall be governed by the directions contained in the Commission’s order dated 28.10.2022 in Petition No. 205/MP/2021. The Petitioner is permitted to provisionally bill the beneficiaries at 90% of the fly ash transportation charges actually incurred by the Petitioner for the period 2019-24. The Petitioner is also directed to submit all the details regarding the award of transportation contracts, the distance to which fly ash has been transported along with the duly reconciled audited statement of the expenditure incurred on fly ash transportation at the time of truing up of tariff for the period 2019-24.

### **Environmental Norms**

79. The Petitioner has submitted that it is in the process of installing the Emission Control Systems (ECS) in compliance with the revised Emission Standards as notified





by the MOEF&CC vide notification dated 7.12.2015, as amended. The Petitioner has also submitted that the completion of these schemes in compliance with the revised emission norms will affect the APC, Heat Rate, O&M expenses, etc., of the generating station. It has also stated that, in addition, the availability of the unit/ station would be affected due to the shutdown of the units for installation of ECS. Accordingly, the Petitioner has stated that it has filed the details in a separate Petition No. 515/MP/2020 on 16.5.2020 in terms of Regulation 29 of the 2019 Tariff Regulations.

80. With regard to the expenditure for installation of ECS, the Commission vide its order dated 6.1.2020 in Petition No. 178/GT/2017 had observed the following:

*“126. Xxx*

*The Petitioner is therefore granted liberty to claim the expenditure towards ECS and other installations, including the additional APC and O&M expenses on account of ECS, with all relevant documents, and the same shall be considered in accordance with law.”*

81. It is also noticed that the prayer of the Petitioner has been dealt with in detail vide Commission’s order 30.7.2021 in Petition No. 515/MP/2020, as under:

*“(c)Additional Auxiliary Power Consumption (APC)*

*54. We have considered the submissions of the Petitioner, MPPMCL and MSEDCL. The Petitioner’s claim for additional APC due to installation of FGD shall be dealt as provided in Regulation 49(E)(f) of the 2020 Amendment Regulations.*

*xxx*

*(e)Gross Station Heat Rate (GSHR)*

*59. We have considered the concerns raised by the Respondents and the clarifications given by the Petitioner. As the 2019 Tariff Regulations do not provide for allowing additional GSHR on account of installation of ECS for NOx, we are not inclined to consider the Petitioner’s prayer at this stage in these petitions which are for in-principle approval for installation of ECS. The same may be considered on a case-to-case basis in Petitions filed for determination of supplementary tariff under Regulation 29(4) of the 2019 Tariff Regulations after implementation of ECS.*

*(f) Additional O&M Expenses*

*67. We have considered the submissions of the Petitioner, MPPMCL, MSEDCL and CSPDCL. The O&M norms for ECS for thermal generating stations have been specified in Regulation 35(1)(7) of the 2020 Amendment Regulations and the Petitioner’s claim shall be dealt accordingly.*

*xxx*

*(h) Deemed availability of the station/unit on account of shutdown*

*77. In view of the discussion in the foregoing paragraphs, the Commission observes that: (a) The process from the stage of identification of FGD package to NoA was with the approval of the Petitioner’s Board of Directors and as per the procedure laid down*



under its DoP and the bidding has been carried out in a fair and transparent manner.  
(b) The Petitioner has identified and proposed wet limestone based FGD systems for reduction in the SO<sub>2</sub> emissions taking into consideration the effectiveness, availability and cost of the Wet Limestone based FGD systems, size of the plants, operational expenses and availability of the reagents.

(c) The costs claimed by the Petitioner towards installation of Wet Limestone based FGD system have been discovered through a competitive bidding process and the hard costs claimed by the Petitioner for FGD are in line with the indicative cost recommended by CEA.

(d) ECS in case of NO<sub>x</sub> in case of Solapur STPS will be considered after a decision is taken by the Petitioner for installation of the same.

Xxx

79. We have not considered the Petitioners claim of total capital cost towards installation of FGD, which apart from hard cost includes IDC, IEDC, FERV, taxes and duties and other costs. These claims excluding hard cost would be considered on case-to-case basis on petitions to be filed by the Petitioner for determination of tariff after implementation of ECS as provided under Regulation 29(4) of the 2019 Tariff Regulations. 80. Accordingly, the Petitioner is directed to file separate petitions for determination of tariff after implementation of the revised ECS as provided in Regulation 29(4) of the 2019 Tariff Regulations.”

82. Accordingly, based on the above, the cost of expenditure towards the installation of ECS shall be considered separately after submission of details of the actual expenditure incurred and the consequential effect on the operational norms including the O&M expenses of the generating station, in terms of the relevant provisions of the 2019 Tariff Regulations.

### **Operational Norms**

83. The Petitioner has considered the following norms of operation as under:

Normative Annual Plant Availability Factor (%)	85
Heat Rate (kcal/kWh)	2246.67
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

84. The operational norms claimed by the Petitioner are discussed as under:

### ***Normative Annual Plant Availability Factor (NAPAF)***

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

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

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

xxx.”

86. The NAPAF of 85% claimed by Petitioner is in terms of Regulation 49(A)(a) of



the 2019 Tariff Regulations and hence, allowed.

### Gross Station Heat Rate (GSHR)

87. Regulation 49(C)(b)(i) of 2019 Tariff Regulations provides as under:

*“(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:*

<i>Pressure Rating (Kg/cm<sup>2</sup>)</i>	<i>150</i>	<i>170</i>	<i>170</i>
<i>SHT/RHT (°C)</i>	<i>535/535</i>	<i>537/537</i>	<i>537/565</i>
<i>Type of BFP</i>	<i>Electrical Driven</i>	<i>Turbine Driven</i>	<i>Turbine Driven</i>
<i>Max Turbine Heat Rate (kCal/kWh)</i>	<i>1955</i>	<i>1950</i>	<i>1935</i>
<i>Min. Boiler Efficiency</i>			
<i>Sub-Bituminous Indian Coal</i>	<i>0.86</i>	<i>0.86</i>	<i>0.86</i>
<i>Bituminous Imported Coal</i>	<i>0.89</i>	<i>0.89</i>	<i>0.89</i>
<i>Max. Design Heat Rate (kCal/kWh)</i>			
<i>Sub-Bituminous Indian Coal</i>	<i>2273</i>	<i>2267</i>	<i>2250</i>
<i>Bituminous Imported Coal</i>	<i>2197</i>	<i>2191</i>	<i>2174</i>

<i>Pressure Rating (Kg/cm<sup>2</sup>)</i>	<i>247</i>	<b><i>247</i></b>	<i>270</i>	<i>270</i>
<i>SHT/RHT (°C)</i>	<i>537/565</i>	<b><i>565/593</i></b>	<i>593/593</i>	<i>600/600</i>
<i>Type of BFP</i>	<i>Turbine Driven</i>	<b><i>Turbine Driven</i></b>	<i>Turbine Driven</i>	<i>Turbine Driven</i>
<i>Max Turbine Heat Rate (kCal/kWh)</i>	<i>1900</i>	<b><i>1850</i></b>	<i>1810</i>	<i>1800</i>
<i>Min. Boiler Efficiency</i>				
<i>Sub-Bituminous Indian Coal</i>	<i>0.86</i>	<b><i>0.86</i></b>	<i>0.865</i>	<i>0.865</i>
<i>Bituminous Imported Coal</i>	<i>0.89</i>	<b><i>0.89</i></b>	<i>0.895</i>	<i>0.895</i>
<i>Max. Design Heat Rate (kCal/kWh)</i>				
<i>Sub-Bituminous Indian Coal</i>	<i>2222</i>	<b><i>2151</i></b>	<i>2105</i>	<i>2081</i>
<i>Bituminous Imported Coal</i>	<i>2135</i>	<b><i>2078</i></b>	<i>2034</i>	<i>2022</i>

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

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

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

*Provided also that maximum turbine cycle heat rate shall be adjusted for type of dry cooling system:*

*Provided also that in case of coal based generating station if one or more generating*



*units were declared under commercial operation prior to 1.4.2019, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2019 shall be lowest of the heat rate norms considered by the Commission during tariff period 2014-19 or those arrived at by above methodology or the norms as per the sub-clause (C)(a)(i) of this Regulation:*

*Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in sub-clause (C)(a)(iv) of this Regulation:*

*Provided also that for Generating stations based on coal rejects, the Commission shall approve the Station Heat Rate on case to case basis.*

*Note: In respect of generating units where the boiler feed pumps are electrically operated, the maximum design heat rate of the unit shall be 40 kCal/kWh lower than the maximum design heat rate of the unit specified above with turbine driven Boiler Feed Pump.”*

88. The Petitioner has considered the Gross Station Heat Rate (GSHR) of 2246.67 kCal/ kWh and has submitted that the generating station was envisaged during the period 2009-14 and the equipment, including SG and TG specifications for tendering/award, was stipulated, considering the boiler efficiency and Turbine heat rate specified by the Commission under the Tariff Regulations in vogue during the relevant period. The Petitioner has also stated that in the above background, it had ordered the equipment through international competitive bidding, and it was not possible for the Petitioner to specify the efficiency parameters at the time of finalizing the contracts for this generating station, as per the efficiency parameters specified under the 2019 Tariff Regulations, which are more stringent. The Petitioner has further submitted that if a more stringent unit heat rate was stipulated, it would have increased the capital cost commensurate to the efficiency parameters sought. It has also stated that if the boiler efficiency for working out the normative heat rate is considered as 86% as per the 2019 Tariff Regulations, instead of the actual design efficiency of 85.62%, the unit heat rate worked out will be 2236.74 kcal/kwh, and as such the operating margin available over the design heat rate would be only 4.90%, which is less than the operating margin of 5%. Accordingly, the Petitioner has prayed that the GSHR of 2246.67 kcal/kWh may be allowed based on the guaranteed turbine cycle heat rate of 1832 kcal/kWh and the boiler efficiency of 85.62%, with an operating margin of 5 % from the guaranteed design value.



89. Respondent MPPMCL has stated that as per proviso 6 to Regulation 49(C)(b) of the 2019 Tariff Regulations, the heat rate shall be the lowest of heat norms considered by the Commission during the period 2014-19 and has prayed that heat rate of 2226.09 kCal/kWh may be allowed to Petitioner.

90. We have examined the matter. GSHR has been specified under the 2019 Tariff Regulations based on the past performance data of the thermal plants and after extensive stakeholder consultations. In view of this, we find no reason to consider the prayer of the Petitioner for relaxation of the SHR norm. Considering the ceiling limit of 86% for boiler efficiency and Turbine Cycle Heat Rate of 1832 (kcal/kWh), the GSHR for the period 2019-24 works out to 2236.74 kcal/kWh ( $1.05 \times 1832 / 0.86$ ), and the same is considered for the purpose of tariff.

### **Secondary Fuel Oil Consumption**

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

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

92. In terms of Regulation 49(D)(a) of the 2019 Tariff Regulations, the Petitioner has considered the secondary fuel oil consumption of 0.50 ml/kWh during the period 2019-24, and the same is allowed.

### **Auxiliary Power Consumption (APC)**

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

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

S. No.	Generating Station	With Natural Draft cooling tower or without a coolingtower
(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 wheretube type coal mill is used, the norms shall be further increased by 0.5% and*



0.8%, respectively:

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

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

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

94. The generating station with a capacity of 1320 MW is with an induced draft cooling tower. Therefore, the Auxiliary Power Consumption of 6.25%, as claimed by the Petitioner, is in terms of Regulation 49(E)(a)(ii) of the 2019 Tariff Regulations and is therefore allowed. It is noticed that the Petitioner has also prayed for additional APC on account of the installation of the FGD system as and when FGD is installed for ECS. This has not been considered in this order. However, as stated, the claim shall be guided in terms of our observations in an order dated 6.1.2020 in Petition No. 178/GT/2020 and shall also be based on the actual auxiliary consumption of the equipment.

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

Normative Annual Plant Availability Factor (%)	85.00
Heat Rate (kcal/kWh)	2236.74
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

### **Interest on Working Capital**

96. Sub-section (a) of clauses (1) and clauses (2) to (4) of Regulation 34 of the 2019 Tariff Regulations provides as under:

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

*a. For Coal-based/lignite-fired thermal generating stations:*

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

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





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

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

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

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

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

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

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

(iii) Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;

(iv) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor duly taking Order in Petition No. 410/GT/2020 Page 32 of 37 into account mode of operation of the generating station on gas fuel and liquid fuel; and

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

**(c) For Hydro generating station (including Pumped Storage Hydro Generating Station) and transmission system:**

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses including security expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:

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

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof as the case may be is declared under commercial operation whichever is later.

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





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

### **Fuel Cost and Energy Charges in Working Capital**

97. Regulation 34(2) of the 2019 Tariff Regulations provides that the computation of the cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined. Regulation 43(2) of the 2019 Tariff Regulations provides as under:

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

*(d) For coal based and lignite fired stations:*

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

*(e) For gas and liquid fuel based stations:*

$$ECR = SHR \times LPPF \times 100 / \{(CVPF) \times (100 - AUX)\}$$

*Where,*

*AUX = Normative auxiliary energy consumption in percentage.*

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

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

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

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

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

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

*LC = Normative limestone consumption in kg per kWh;*

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

*LPPF = Weighted average landed fuel cost of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to blending ratio);*

*SFC = Normative specific fuel oil consumption, in ml per kWh;*

*LPSFi = Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ ml during the month:*

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



98. The Petitioner has claimed the cost of fuel component in working capital and Energy Charge Rate (ECR) based on the following:

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

99. The Petitioner has claimed ECR of Rs.4.282 per kWh, i.e., Oil component Rs 0.023 per kWh and Rs 4.259 per kWh for the coal component and the following fuel cost components in working capital:

	<i>(Rs. in lakh)</i>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Cost of Coal (50 days)	53765.21	53765.21	53765.21	53765.21	53765.21
Cost of secondary fuel oil (2 months)	352.18	351.22	351.22	351.22	352.18

100. Respondent MSEDCL has submitted that the Petitioner has considered the details of the source-wise fuel for the preceding 3 months from 1.4.2019 and has prayed that the computation shall be done for three months preceding the COD of the generating station. The Respondent has also submitted that the weighted average cost of coal of 3 months considered in aforesaid petition is Rs. 6265.04/MT, weighted average GCV of coal of 3 months is 3517.15kcal/kg, weighted average price of secondary fuel of 3 months is Rs.42880.91/KL and weighted average GCV of secondary fuel is 9763.22 kcal/kg whereas weighted average of these parameters computed considering the actual billed parameters are quite different. The Respondent has further submitted that the Petitioner has not submitted any reason for the change in the value of these parameters and has prayed for a prudence check of the same.

101. The Petitioner, in its rejoinder, has clarified that as the petition is for the approval of the tariff of the generating station for the period 2019-24, it has considered the fuel details for October 2018, November 2018, and December 2018, i.e., the third quarter of



2018-19 (preceding financial year to 2019-20) for the computation of energy charge for the purpose of determining the IOWC, in terms of Regulation 34(2) of 2019 Tariff Regulations. The Petitioner, as regards the energy charges, has submitted that there is a difference in the weighted average cost and GCV of the secondary fuel as considered with respect to the actual billed parameters. It has also stated that the fuel details, as submitted in Form-15, are for the computation of IOWC and are in line with Regulation 34(2) of the 2019 Tariff Regulations.

102. Respondent MPPMCL has submitted that there is an average slippage of about 735 kCal/kg, for which the ultimate consumer is paying the Petitioner. The Respondent has also submitted that the grade slippage is unbelievably high, at about 24.5% of the billed GCV, for which no justification has been furnished by the Petitioner. It has added that being a non-pit head station, and since the transit and handling losses of 0.8% are allowed on a normative basis, there is no serious concern on the part of the generating station, and therefore, the GCV is on 'billed' basis may be considered for the computation of energy charges. The Petitioner, in its rejoinder, has clarified that both the values are computed based on different parameters and hence cannot be compared. It has also been submitted that the GCV as billed is based on Equilibrated Moisture (EM) measured at the 'mine end' while the GCV on 'as received' is based on the Total Moisture content of coal measured at the unloading end. The Petitioner has added that the GCV as billed is based on the measurement of GCV of coal, in line with the IS Standards/ Fuel Supply Agreement (FSA) with the coal supplier, while GCV on an 'as received' basis is derived from GCV, which is measured at the unloading end. In view of the above, the Petitioner has submitted that the contentions of the Respondent may be rejected.

103. The matter has been examined. On perusal of Forms-15 and 15A furnished by the



Petitioner, it is observed that the Petitioner has indicated the stock of coal and oil, inclusive of the opening stock of coal and oil, but the opening stock values have not been provided for the data furnished during the months of October 2018, November 2018 and December 2018. However, in terms of Regulation 34(2) of the 2019 Tariff Regulations, the computation of the cost of fuel, as part of the IWC, is to be based on the landed price and GCV of fuel as per actuals for the said months, which means that the fuel received during these three months is only to be considered and no opening stock shall be included therein. Further, the Petitioner, in its additional submissions dated 29.6.2021, has furnished Form 15 and Form 15A as per the format prescribed under the 2019 Tariff Regulation. Accordingly, the opening stock of coal and oil and its corresponding values have to be excluded while computing the weighted average price and GCV of coal.

104. Further, on perusal of the revised forms (Form-15 and Form 15A) pertaining to details of coal and oil, it is observed that the Petitioner has changed its data with regard to the total transportation expenses and the quantity of stock in Form-15 and Form-15A, but has not revised the Form 15B and the ECR claimed. Further, it is observed that there has been an adjustment of the amount charged by the Coal Company for the price of coal for the months of October 2018, November 2018, and December 2018, and details/reasons for the same have not been furnished by the Petitioner. It is also observed that the Petitioner has not provided GCV of domestic coal (others) and GCV of coal procured through e-auction separately as per Form-15; however, however, has provided a single GCV of domestic coal and e-auction coal supplied, as received at the station. Therefore, it is not clear whether the said GCV pertains to the GCV of e-auction coal or coal from other sources. Further, the Petitioner, in Form-15, has stated that the proportion of e-auction coal consumption in total consumption is 28.3%.



105. In view of the above, for computation of coal and oil component, the Commission has considered the revised Form 15 and Form 15A furnished by the Petitioner as of now and computed the weighted average price of fuel and GCV of fuel as per the Tariff Regulation, 2019 considering the blending ratio. Accordingly, the weighted average price and GCV of coal and oil allowed for the 2019-24 tariff period, subject to trueing up, is as under:

	<b>Claimed*</b>	<b>Allowed</b>
Weighted average price of coal (Rs. /MT)	6265.04	5733.21
Weighted average GCV of Coal with adjustment of 85 kcal/kg (kcal/kg)	3432.15	3359.90
Weighted average price of oil (Rs. /KL)	42880.91	50432.29
Weighted average GCV of oil (kcal/KL)	9763.22	9744.00

*Note: The Petitioner shall provide audited documents to establish cost and GCV of Coal (both e-auction coal and others) and Oil received during the months of Oct-18, Nov-18 and Dec-18 at the time of true up exercise.*

*\*The Petitioner has submitted revised Form 15 and Form 15A in additional submission dated 29.6.2021 but has not submitted the revised Form 15B for computation of energy charges, Accordingly, there is a difference in the claims in the weighted average GCV and Price.*

106. The Petitioner is directed to submit the audited certified Form-15 and Form-15A for the respective months clearly indicating GCV, quantity, and value of the coal received from each source, i.e., the linked Mine, FSA coal, e-auction coal, imported coal, and that of opening stock (quantity, GCV, and value). Further, the Petitioner shall furnish the reasons for the loss claimed in GCV, i.e., GCV as billed and GCV as received, along with a credit/debit note received on account of excess moisture and grade slippage.

107. Accordingly, the fuel component in working capital, Energy Charges, and ECR allowed for the 2019-24 tariff period are as under:

	<i>(In Rs lakhs)</i>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Cost of Coal for stock (20 days generation corresponding to NAPAF)	20510.44	20510.44	20510.44	20510.44	20510.44
Cost of Coal towards generation (30 days generation corresponding to NAPAF)	30765.66	30765.66	30765.66	30765.66	30765.66
Cost of Secondary fuel 2 Months generation	414.20	413.07	413.07	413.07	414.20



corresponding to NAPAF					
Energy charges for 45 days	46452.06	46452.06	46452.06	46452.06	46452.06

### **Energy Charge Rate (ECR)**

108. The Petitioner has claimed the ECR (ex-bus) of 4.388 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.

109. Respondent MSEDCL has submitted that the ECR of the generating station has varied widely from Rs. 2.613/kWh to 4.824/kWh since the COD (from September 2017 to March 2021). It has also been submitted that for the period from 2017-18 to 2020-21, the Plant Load Factor (PLF) has varied from 36.93% to 33.52%, while the Plant Availability Factor (PAF) has varied from 49.67% to 96.08%. The Respondent has stated that even though the Petitioner has declared high availability, the Plant was hardly scheduled by the beneficiaries due to high ECR, resulting in low PLF. It has also been pointed out that despite having a permanent coal linkage, the Petitioner has claimed a high ECR of Rs. 4.282/kWh, as the base rate for the period 2019-24, and such a high rate is not viable. In response, the Petitioner has clarified that the issue of high ECR for the generating station is outside the purview in the present case. The Petitioner has, however, submitted that it has been making all-out efforts to minimize the ECR by optimizing coal logistics and adopting other measures. It has also submitted that the arrangement of fuel is the prime responsibility of the generating company, and the Petitioner has not only arranged adequate fuel for its station but also taken various steps to lower the coal prices by looking at other options like entering into an agreement with SCCL, etc. The Petitioner has further submitted that the Respondent MSEDCL has benefited by way of SCED gain to the tune of Rs 44.11 crore in 2019-20 and Rs 26.94 crore in 2020-21 from all its generating stations.

110. The matter has been considered. The Petitioner has not revised Form 15B in



terms of the revised Form-15 and Form 15A submitted by it. However, the ECR, as worked out, based on the operational norms specified under the 2019 Tariff Regulations and on “as received” GCV of coal for the preceding three months, i.e., October 2018 to December 2018, has been considered for allowing 45 days of energy charge in working capital as under:

	<b>Unit</b>	<b>2019-24</b>
Capacity	MW	1320
Gross Station Heat Rate	Kcal/kWh	2236.74
Auxiliary Energy Consumption	%	6.25
Weighted average price of coal	Rs. /MT	5733.21
Weighted average GCV of Coal	kcal/kg	3359.90
Weighted average price of oil	Rs. /KL	50432.29
Weighted average GCV of oil	kcal/L	9744.00
Rate of energy charge ex-bus Rs/kWh	Rs/kWh	4.089

111. The Petitioner shall provide the audited documents to establish the cost and GCV of Coal and Oil (with bifurcation of LDO and HFO details) received during the months of October 2018, November 2018, and December 2018 at the time of truing-up of the tariff.

### ***Maintenance Spares***

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

<i>(Rs. in lakh)</i>				
<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
5938.96	6145.00	6340.36	6541.00	6749.56

### ***Receivables***

113. Regulation 34(1)(a)(v) of the 2019 Tariff Regulations provides for receivables for 45 days. Accordingly, after considering the mode of operation of the generating station on secondary fuel, the receivable component of working capital is allowed as under:

<i>(Rs. in lakh)</i>					
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Energy charge for 45 days corresponding to NAPAF	46452.06	46452.06	46452.06	46452.06	46452.06
Fixed charge for 45 days	22420.37	22735.97	23159.38	23475.19	23297.75





corresponding to NAPAF					
<b>Total</b>	<b>68872.44</b>	<b>69188.03</b>	<b>69611.45</b>	<b>69927.25</b>	<b>69749.81</b>

**Working Capital for O&M Expenses (1 month)**

114. The O&M expenses for 1 month, as claimed by the Petitioner (in the master sheet) are as under:

*(Rs. in lakh)*

<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
2518.34	2606.59	2698.48	2792.95	2891.09

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

*(Rs. in lakh)*

<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
2474.57	2560.42	2641.82	2725.42	2812.32

116. As per Regulation 34(2) of the 2019 Tariff Regulations, the cost of coal shall be based on the landed fuel cost (considering the normative transit and handling losses) in terms of Regulation 39 of the 2019 Tariff Regulations and the Gross Calorific Value of fuel as per the actual weighted average for the third quarter of the preceding financial year. Hence, the Petitioner is directed to furnish the details of the quantity of coal as per Regulation 34(2) of the 2019 Tariff Regulations at the time of the truing-up of the tariff. The Petitioner is also directed to submit the details strictly in line with in Forms/ Annexures attached to the 2019 Tariff Regulations. Further, in terms of the 2019 Tariff Regulations, the Petitioner is directed to submit the year-wise Form-15, excluding the opening stock, along with CIMFR / third-party reports, and actual blending ratio. In addition, the Petitioner shall furnish the details regarding grade slippages, moisture content, adjustment made, reasons for the higher difference in GCV billed and GCV received of domestic coal, justification for claiming diesel charges for coal supplied through the MGR system at the time of truing up of tariff.

117. The Petitioner shall, on a month-to-month basis, 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***

118. In line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 2019-20, 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for 2020-21, 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 1.4.2021 / 1.4.2022 + 350 bps) for the years 2021-22 and 2022-23, and 12.00% (i.e. 1 year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for the year 2023-24. Accordingly, the Interest on working capital has been computed and allowed as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working capital for Cost of Coal towards Stock (20 days generation corresponding to NAPAF) <b>(A)</b>	20510.44	20510.44	20510.44	20510.44	20510.44
Working capital for Cost of Coal towards Generation (30 days generation corresponding to NAPAF) <b>(B)</b>	30765.66	30765.66	30765.66	30765.66	30765.66
Working capital for Cost of Secondary fuel oil (2 months generation corresponding to NAPAF) <b>(C)</b>	414.20	413.07	413.07	413.07	414.20
Working capital for Maintenance Spares (20% of O&M expenses) <b>(D)</b>	5938.96	6145.00	6340.36	6541.00	6749.56
Working capital for Receivables (45 days of sale of electricity at NAPAF) <b>(E)</b>	68872.44	69188.03	69611.45	69927.25	69749.81
Working capital for O&M expenses (1 month of O&M expenses) <b>(F)</b>	2474.57	2560.42	2641.82	2725.42	2812.32
<b>Total Working Capital (G = A+B+C+D+E+F)</b>	<b>128976.26</b>	<b>129582.61</b>	<b>130282.79</b>	<b>130882.83</b>	<b>131001.98</b>
<b>Rate of Interest (H)</b>	12.05%	11.25%	10.50%	10.50%	12.00%
<b>Interest on Working Capital (I = GxH)</b>	<b>15541.64</b>	<b>14578.04</b>	<b>13679.69</b>	<b>13742.70</b>	<b>15720.24</b>

### **Annual Fixed Charges approved for the period 2019-24**

119. Accordingly, the annual fixed charges approved in respect of the generating station for the period 2019-24 are summarized as under:

	<i>(Rs in lakh)</i>				
	2019-20	2020-2021	2021-22	2022-23	2023-24
Depreciation	44149.39	45740.51	47872.18	49473.64	49473.64
Interest on Loan	41950.10	40515.34	39276.35	37319.65	33377.80
Return on Equity	51016.46	52855.06	55318.30	57168.86	57168.86



Interest on Working Capital	15541.64	14578.04	13679.69	13742.70	15720.24
O&M Expenses	29694.79	30725.00	31701.80	32705.00	33747.80
<b>Total annual fixed charges allowed</b>	<b>182352.38</b>	<b>184413.95</b>	<b>187848.33</b>	<b>190409.84</b>	<b>189488.34</b>

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

120. The annual fixed charges approved above are subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

### ***Application Fee and Publication expenses***

121. The Petitioner has sought the reimbursement of the filing fees paid by it for the filing of the tariff Petition for the period 2019-24 and towards the publication expenses. The Petitioner shall be entitled to reimbursement of the filing fees and publication expenses in connection with the petition directly from the beneficiaries on a pro-rata basis, in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

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

123. Petition No. 246/GT/2021 is disposed of in terms of the above.

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

**Sd/-**  
**(Arun Goyal)**  
**Member**

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

