

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 402/GT/2019**

**Coram:**

**Shri I.S. Jha, Member**

**Shri Arun Goyal, Member**

**Shri Pravas Kumar Singh, Member**

**Date of Order: 26<sup>th</sup> July, 2023**

**IN THE MATTER OF**

Petition for determination of tariff of Khargone Super Thermal Power Station (1320 MW) for the period from COD of Unit-I (1.2.2020) to 31.3.2024.

**AND**

**IN THE MATTER OF**

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

**.... Petitioner**

**Vs**

1. Madhya Pradesh Power Management Company Limited,  
Shakti Bhawan, Vidyut Nagar, Rampur, Jabalpur - 110003
2. Maharashtra State Electricity Distribution Company Limited,  
Prakashgad, Bandra (East), Mumbai - 400051
3. Gujarat Urja Vikas Nigam Limited,  
2<sup>nd</sup> Floor, Sardar Patel Vidyut Bhawan, Race Course  
Vadodara - 390007
4. Chhattisgarh State Power Distribution Company Limited,  
Vidyut Sewa Bhawan, Dagania Raipur - 492001
5. DNH Power Distribution Corporation Limited,  
UT of DNH, Silvassa - 396230
6. Electricity Department,  
Government of Goa, 3rd Floor, Vidyut Bhawan, Panaji Goa- 403001
7. Electricity Department,  
Administration of Daman and Diu, Daman - 396210



8. Khargone Transmission Limited,  
Core-4, Scope Complex,  
7, Lodhi Road, New Delhi - 110003

.....Respondents

**Parties Present:**

Shri Venkatesh, Advocate, NTPC  
Shri Jayant Baja, Advocate, NTPC  
Shri Kartikey Trivedi, Advocate, NTPC  
Shri Ashutosh Srivastava, Advocate, NTPC  
Shri V.V. Siva Kumar, NTPC  
Shri S.K. Aggarwal, NTPC  
Shri Vivek Kumar, NTPC  
Shri Harshit Sharma, NTPC  
Shri Ravi Sharma, Advocate, CSPDCL  
Shri Deep Rao Palepu, Advocate, KTL  
Shri Sahil Kaul, Advocate, KTL  
Shri Ravin Dubey, Advocate, MPPMCL

**ORDER**

This Petition has been filed by the Petitioner, NTPC Limited, for approval of tariff of Khargone Super Thermal Power Station (1320 MW) (in short “the project/generating station”) based on the anticipated COD of Unit-I (30.9.2019) to 31.3.2024 in accordance with the provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short “the 2019 Tariff Regulations”). However, the Petitioner vide affidavit dated 13.8.2021, has submitted that the actual COD of Unit-I is 1.2.2020 and Unit-II is 4.4.2020, and has filed amended petition, praying for approval of tariff of the generating station from the actual COD of Unit-I till 31.3.2024.

2. The generating station, located in the Khargone district of the State of Madhya Pradesh, comprises of two Units of 660 MW each. The Ministry of Power, GOI vide its letter dated 17.7.2017 had allocated the power from the generating station to the Respondent beneficiaries as detailed below:



States	Total Allocation in (MW)	Share in Installed Capacity (%)
Gujarat	245.54	18.60
Madhya Pradesh	660.00	50.00
Chhattisgarh	125.74	9.53
Maharashtra	50.00	3.79
Goa	11.75	0.89
Daman & Diu	12.14	0.92
D&N Haveli	16.83	1.27
Unallocated	198.00	15.00
<b>Total</b>	<b>1320.00</b>	<b>100.00</b>

3. The Investment Approval (IA) of the project was accorded by the Board of the Petitioner Company in its 417<sup>th</sup> meeting held on 25.2.2015 at SBI Capital Markets Limited ('SBI Cap') appraised estimated cost of Rs.9870.51 crore, including IDC and FC of Rs.1353.64 crore and working capital margin of Rs.262.21 crore as of 1<sup>st</sup> quarter of 2015 price level and the corresponding indicative estimated completed cost of Rs.11148.86 crore, including IDC and FC of Rs.1464.78 crore and working capital margin of Rs.272.21 crore. The Petitioner has further submitted that the IA of the Flue Gas Desulphurization (FGD) at a total cost of Rs.650.29 crore and Smart City Initiative at a cost of Rs.26.83 crore, for the project, was approved by the Board in its meeting held on 28.7.2018 and 26.8.2019. Accordingly, the Petitioner has considered the total approved estimated cost of the project as Rs.10547.64 crore.

4. Based on the above, the capital cost and the annual fixed charges claimed by the Petitioner from actual COD of Unit-I (1.2.2020) till 31.3.2024 is as under:

**Capital Cost claimed**

(Rs. in lakh)

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Capital cost as on COD of Unit-I/Unit-II	636783.48	-	938404.45	-	-	-
Notional IDC	329.00	-	412.30	-	-	-
FERV charged to revenue	4400.63	-	20897.07	-	-	-



Unamortized bond issue expense	7353.45	-	7472.41	-	-	-
Opening capital cost	648866.56	673569.72	967186.23	1013535.31	1099305.00	1142822.75
Add: Addition during the year/ period	10947.43	-	46349.08	85769.69	43517.75	-
Add: Discharges during the year/ period	13755.73	23.67	-	-	-	-
<b>Closing capital cost</b>	<b>673569.72</b>	<b>673593.39</b>	<b>1013535.31</b>	<b>1099305.00</b>	<b>1142822.75</b>	<b>1142822.75</b>
Average capital cost	661218.14	673581.56	990360.77	1056420.16	1121063.88	1142822.75

*Note: The Petitioner has claimed entire capital cost as eligible for return on equity at normal rate.*

### **Annual Fixed Charges claimed**

	(Rs. in lakh)					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Depreciation	33193.15	33813.79	50013.22	53349.22	56613.73	57712.55
Interest on Loan	24599.57	24484.91	35189.75	35422.70	34266.88	30790.96
Return on Equity	37257.00	37953.63	55802.87	59525.05	63167.47	64393.49
Interest on Working Capital	6552.78	6154.68	11754.79	11905.05	12155.30	12202.08
O&M Expenses	14710.61	15179.21	31136.40	32164.86	34006.94	35527.99
<b>Total</b>	<b>116313.11</b>	<b>117586.22</b>	<b>183897.03</b>	<b>192366.88</b>	<b>200210.30</b>	<b>200627.08</b>

5. The Respondents MSEDCL, CSPDCL, MPPMCL and Khargone Transmission Limited (KTL) have filed their replies vide affidavits dated 5.2.2020/ 27.9.2021, 26.6.2021 /13.9.2021,6.2.2020 /7.4.2022/ 22.10.2022 and 8.6.2022/21.10.2022, respectively. The Petitioner has filed its rejoinders to the abovesaid replies vide affidavit dated 6.1.2022 (MSEDCL), 6.1.2022 (CSPDCL), 2.5.2022/ 28.10.2022 (MPPMCL) and 29.7.2022 (KTL). The Petition was heard on 14.9.2022 and the Commission, reserved its order in the petition, after directing the Petitioner to submit certain additional information. The Petitioner, in compliance to the directions, has furnished the additional information vide affidavit dated 6.10.2022, after serving copy on the Respondents. Based on the submissions of the parties and the documents available on record, and on prudence check, we proceed with the determination of tariff of the generating station for period from actual COD of Unit-I (1.2.2020) to 31.3.2024, as stated in the subsequent paragraphs.



## **Commissioning Schedule**

6. As stated, the IA for the project was accorded by the Board of the Petitioner Company in its 417<sup>th</sup> Meeting held on 25.2.2015, which was subject to the Environmental Clearance (EC). EC was granted on 31.3.2015 and considering the date of EC, the Petitioner has considered 31.3.2015, as the 'Zero Date'. The Petitioner has also considered the Scheduled Commercial Operation Date (SCOD) of Unit-I as 31.7.2019, and of Unit-II as 31.1.2020. However, the actual COD of Unit-I is 1.2.2020 and that of Unit-II is 4.4.2020, thereby resulting in the delay of 6.2 months (or 185 days) for Unit-I and 2.13 months (or 64 days) for Unit-II from SCOD as under:

	<b>SCOD</b>	<b>Actual COD</b>	<b>Time Overrun</b>
Unit-I	31.7.2019	1.2.2020	6.20 months (or 185 days)
Unit-II	31.1.2020	4.4.2020	2.13 months (or 64 days)

## **Time Overrun**

7. The Petitioner vide its affidavit dated 13.8.2021 has submitted that the COD of the Units got delayed on account of the following reasons, which were beyond its control:

- (a) *Ban on Sand Mining*
- (b) *Re-engineering of Ash Handling System to account for requirement of FGD as per new environment norms*
- (c) *Law and Order issues in 66 kV transmission line works*
- (d) *Curfew in Khargone town*
- (e) *Floods in Tamil Nadu*
- (f) *Disturbance due to Cauvery water dispute*
- (g) *Demonetization of currency by Gol*
- (h) *Farmers unrest in the state of MP*
- (i) *Roll out of GST*
- (j) *Reduced manpower on account of increased minimum wages*
- (k) *Nationwide strike of truckers*
- (l) *Delay in issuance of Consent to Operate for Unit-I*
- (m) *Non-availability of Power Evacuation System (Non-operationalization of LTA)*
- (n) *Non-availability of Associated Transmission System for power evacuation*
- (o) *Delay in issuance of Consent to Operate for Unit-II.*



8. The Petitioner vide its affidavit dated 13.8.2021, has furnished the Unit-wise reason for time overrun along with the delay analysis, indicating the activities delayed, the reasons for the said delay and the corresponding delay on account of the delay in each of the activities, corresponding to the units. These are examined in the paragraphs below:

### **Analysis and Decision**

9. This commission is required to make a prudence check as stipulated under the Tariff Regulations. The provisions of the 2019 Tariff Regulations which provides for prudence check of the capital cost of existing or new projects (Regulation 20), IDC and IEDC (Regulation 21) and Regulation 22 (Controllable and uncontrollable factors (for deciding time overrun, cost escalation etc.,) are extracted below:

*“20. **Prudence Check of Capital Cost** : The following principles shall be adopted for prudence check of capital cost of the existing or new projects: (1) In case of the thermal generating station and the transmission system, prudence check of capital cost shall include scrutiny of the capital expenditure, in the light of capital cost of similar projects based on past historical data, wherever available, reasonableness of financing plan, interest during construction, incidental expenditure during construction, use of efficient technology, cost over-run and time over-run, procurement of equipment and materials through competitive bidding and such other matters as may be considered appropriate by the Commission:*

*Provided that, while carrying out the prudence check, the Commission shall also examine whether the generating company or transmission licensee, as the case may be, has been careful in its judgments and decisions in execution of the project”*

### **21. Interest During Construction (IDC) and Incidental Expenditure during Construction (IEDC)**

*(1) Interest during construction (IDC) shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds upto SCOD.*

*(2) Incidental expenditure during construction (IEDC) shall be computed from the zero date, taking into account pre-operative expenses upto SCOD:*

*Provided that any revenue earned during construction period up to SCOD on account of interest on deposits or advances, or any other receipts shall be taken into account for reduction in incidental expenditure during construction.*

*(3) In case of additional costs on account of IDC and IEDC due to delay in achieving the COD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justifications with supporting documents for such*



*delay including prudent phasing of funds in case of IDC and details of IEDC during the period of delay and liquidated damages recovered or recoverable corresponding to the delay.*

*(4) If the delay in achieving the COD is not attributable to the generating company or the transmission licensee, IDC and IEDC beyond SCOD may be allowed after prudence check and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be adjusted in the capital cost of the generating station or the transmission system, as the case may be.*

*(5) If the delay in achieving the COD is attributable either in entirety or in part to the generating company or the transmission licensee or its contractor or supplier or agency, in such cases, IDC and IEDC beyond SCOD may be disallowed after prudence check either in entirety or on pro-rata basis corresponding to the period of delay not condoned and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be retained by the generating company or the transmission licensee, as the case may be.*

**22. Controllable and Uncontrollable factors:** *The following shall be considered as controllable and uncontrollable factors for deciding time over-run, cost escalation, IDC and IEDC of the project:*

*(1) The “controllable factors” shall include but shall not be limited to the following:*

- a. Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or change in law or force majeure events; and*
- b. Delay in execution of the project on account of contractor or supplier or agency of the generating company or transmission licensee.*

*(2) The “uncontrollable factors” shall include but shall not be limited to the following:*

- a. Force Majeure events;*
- b. Change in law; and*
- c. Land acquisition except where the delay is attributable to the generating company or the transmission licensee.*

10. The Commission vide ROP to hearing dated 14.9.2022, had directed the Petitioner to furnish the chronological details of delay corresponding to reasons provided for time overrun vis-à-vis the SCOD and actual COD and summary of critical parts of PERT chart. In response, the Petitioner has furnished the said details vide affidavit dated 6.10.2022.

11. It is observed that the overall delay in COD of Unit-I and Unit-II are 6.20 months (or 185 days) and 2.13 months (or 64 days), respectively. The Petitioner has attributed the reasons for delay in declaration of COD of the units, as follows:



Sl. No.	Reasons for Delay (uncontrollable factors)	No. of days lost / affected	Affected activities
1	Ban on Sand Mining	195	Main Plant & Offsite Civil works
2	Re-engineering of Ash Handling System to account for requirement of FGD as per new environment norms	314	Ash Handling Plant and associated systems
3	Law and Order issues in 66 kV transmission line works	60	Make-up water system
4	Curfew in Khargone town	09	All Project activities
5	Floods in Tamil Nadu	30	SG area works
6	Disturbance due to Cauvery water dispute	30	SG area works
7	Demonetization of currency by GOI	22	All Project activities
8	Farmers unrest in the state of MP	15	All Project activities
9	Roll out of GST	60	All Project activities
10	Reduced manpower on account of increased minimum wages	45	All Project activities
11	Nationwide strike of truckers	09	All Project activities
12	Delay in issuance of Consent to Operate for Unit-I	192	COD of Unit-I
13	Non-availability of Power Evacuation System (Non-operationalization of LTA)	184	COD of Unit-I
14	Non-availability of Associated Transmission System for power evacuation	230	COD of Unit-II
15	Delay in issuance of Consent to Operate for Unit-II	276	COD of Unit-II

12. Based on the submissions of the parties and the documents available on record, we proceed to examine on prudence check, the reasons for time overrun of the project, as stated in the subsequent paragraphs:

### **Unit-I- Milestone wise analysis of Time Overrun**

13. The Petitioner vide its affidavit dated 6.10.2022 has submitted the chronological details for the delay in COD of Unit-I as under:

Sl. No.	Description of Activities	Original schedule (as per planning)		Actual schedule (As per actual)		Time Over-Run Days	Major reasons for delay
		Start date	Completion date	Actual start date	Actual completion date		
1	Zero Date	31.3.2015		31.3.2015		0	





2	Boiler & ESP - Civil & Structural Erection Works	28.8.2015	8.8.2018	28.8.2015	10.3.2019	214	<ol style="list-style-type: none"> <li>1. Curfew in Khargone Town</li> <li>2. Non-availability of sand due to ban on sand mining by State Govt.</li> <li>3. Floods in Tamil Nadu affected delivery of structural steel material</li> <li>4. Disturbance due to Cauvery water dispute caused supply chain hindrances</li> <li>5. Demonetization of higher currency notes resulted into exodus of manpower</li> <li>6. Farmers' unrest in Mandsaur (MP) caused supply chain disruption and delayed planned manpower augmentation</li> <li>7. Transition from prevailing tax structure to new GST based tax structure affected manufacturing and supply of material in the transition period</li> <li>8. Strikes and reduction of manpower on account of increased minimum wages as per new Govt. notification (hike in basic wages was about 40% more than the existing wages)</li> <li>9. Nationwide strike of truckers caused supply chain hindrances.</li> </ol>
3	Steam Generator Works	30.5.2016	31.1.2019	30.5.2016	27.6.2019	147	Delay due to reasons as mentioned for activities at Sl. No. 2 and 5
4	TG on Barring	31.10.2018	31.10.2018	3.2.2019	3.2.2019	95	Delay in Civil & Structural works owing to reasons of delay as mentioned for activity at Sl. No. 2



5	Steam Blowing	1.11.2018	30.11.2018	9.4.2019	22.5.2019	173	1. Delay in Civil & Structural works owing to reasons of delay as mentioned for activity at Sl. No. 2. 2. Delay in MUW pipeline readiness owing to delayed civil works due to ban on sand mining. 3. Delay in MUW Pipeline readiness due to law-and-order issues in execution of 66 kV transmission line works leading to contingency arrangement of DG Pumps.
6	Synchronization	31.1.2019	31.1.2019	27.6.2019	27.6.2019	147	Delay due to reasons as mentioned for activity at Sl. No. 5
7	Ash Handling Plant	29.7.2015	30.3.2019	10.11.2016	10.8.2019	133	Re-engineering of Ash Handling Facilities due to introduction of FGD as per new environmental norms.
8	Trial Operation	20.7.2019	23.7.2019	26.9.2019	29.9.2019	68	Delay due to reasons as mentioned for activity at Sl. No. 5 and 6.
9	COD	31.7.2019	31.7.2019	1.2.2020	1.2.2020	185	1. Delay in Issuance of CTO on account of change in emission norms for thermal power stations by MOEF&CC. 2. Non-availability of Associated Transmission System for Power Evacuation (Non-operationalization of LTA). 3. Delay due to reasons as mentioned for activity at Sl. No. 8

#### **A. Delay due to ban on sand mining**

14. The Petitioner has vide its affidavit dated 13.8.2021, submitted the following:

- (i) During the scheduled construction period of the Project there was non-availability of sand for prolonged durations due to imposition of ban on mining and sale of sand by various State Governments including Madhya Pradesh (MP) Govt. under direction



of NGT and guidelines from MOEF&CC, which resulted in significant delay in Main Plant and Offsite civil works;

(ii) The civil works for the Petitioner's Project commenced in October 2015 after the initial site levelling works, and these works required substantial amount of sand for concrete works. At the time, there were 124 operating sand quarries in the state of MP. Out of these 124 quarries, 63 quarries operated in monsoons too as State Environment Impact Assessment Authority (SEIAA) had not imposed any condition to stop mining during monsoons in the Environment Clearance (EC) granted to these quarries. Accordingly, the petitioner did not face any shortage of sand during the initial civil works in monsoon period of 2015 as minimum 63 sand quarries operated.

(iii) However, on 09.06.2016, MOEF&CC released Sustainable Sand Mining Management Guidelines 2016, which prohibited sand mining from rivers in the rainy season. Table-9 to of the said guidelines provided the period of rainy season over India state-wise, as per which period from 15<sup>th</sup> June to 1<sup>st</sup> October was considered as rainy season for the State of MP. Consequently, river sand mining was banned across all the quarries in the State of MP during this monsoon period. This Change in Law event came as a surprise to the Petitioner. This resulted into severe shortage of sand available for construction activities especially civil works of the Project during the period 15<sup>th</sup> June 2016 to 1<sup>st</sup> October 2016 as now the 63 quarries which could operate sand mining in monsoons earlier, also had to stop the operations resulting into complete stoppage of sand mining during the monsoon period. As several civil construction activities of the Project were in full swing, the ban resulted into a significant impact on the overall progress of the Project leading to a delay of about 90 days.

(iv) During the 'Namami Devi Narmade Yatra' from 11.12.2016 to 15.05.2017, there was no official notification or announcement with regard to ban on sand mining in the River, but excessive controls were exercised by MP government for deterring the sand mining and transportation, including legal mining and associated activities, across the Narmada river belt. Due to stringent policy implementation in light of Yatra, there were serious disruptions in the complex supply chain of sand mining and allied activities. Moreover, the volatility in the availability of legally mined sand led to steep price escalation. The combined impact was drastically lower receipts of sand as against the sourcing plan which restricted the civil/concreting work progress of the Project.

(v) Immediately after the aforesaid yatra, Notice was issued on 22.05.2017 by Mineral Resource Department, Government of Madhya Pradesh to all concerned for blanket ban on sand mining in the river Narmada. As belt of river Narmada was a major source of supply of sand to the Project, this blanket ban severely impacted the civil works as already there was no stock of sand available at site due to reasons mentioned above.

(vi) Apart from the concreting works that were affected due to non-availability of sand, the civil works of Make-up Water (MUW) pipeline were also impacted due to the issue. The MUW pipeline for the Project comprises 02 no. parallel Glass Reinforced Plastic (GRP) pipelines laid in an underground trench in a length of 41 km from the Plant to the water source. With severe shortage of sand for prolonged durations, the readiness of MUW Pipeline system was also impacted apart from other civil works within the Plant boundary area.

(vii) Petitioner took best measures to mitigate the challenge of sand shortage by trying to arrange river sand in advance during non-monsoon period in the subsequent years of 2017 based on the past experience of not getting sand during the period from July 2016 to September 2016 but due to the "Yatra" the same couldn't be arranged in



excess. The Petitioner also tried to arrange sand from neighbouring states but since the ban on sand mining during monsoons was universal, it did not result into major addition to sand stock. Furthermore, the Petitioner also explored to procure and utilise manufactured-sand. However, the Petitioner could not avoid a total delay of 3.5 months i.e. 1.5 months during the Namami Devi Narmade Yatra period and 02 months during the monsoon period of 2017 owing to high demand of sand but low availability of river sand as well as manufactured-sand and limited usability of manufactured-sand.

(viii) Owing to non-availability of sand due to multiple reasons as listed above the overall progress of works was impacted as follows: 03 months from July 2016 to September 2016 (first yearly monsoon period with complete ban), one and half months during the Namami Devi Narmade Yatra period from 11.12.2016 to 15.05.2017, 02 months during the period June 2017 to September 2017 (ban on mining in Narmada river and second yearly monsoon period with complete ban). As seen, the pro-active/prudent measures taken by the Petitioner restricted the delay in the successive periods. As the above delay was beyond the reasonable control of Petitioner, accordingly, it is prayed that Commission may be pleased to condone the same. The said delay falls within the meaning of Regulation 3(10), 3 (25) read with Regulation 22 (2) of the Tariff Regulations, 2019.

15. The Respondent, MPPCL has submitted that the Petitioner has failed to demonstrate as to what reasonable care it had taken to mitigate the impact of ban on sand mining, which resulted in complete stoppage of civil works. It has also stated that it was the responsibility of the Petitioner to procure sand from alternate source for carrying out the work in monsoons. Similar submissions have been made by the Respondent MSEDCL and CSPDCL.

16. We have examined the matter. It is evident from the above submissions that there was non-availability of sand for a prolonged period., due to imposition of ban on mining and sale of sand by various State Governments including the State of Madhya Pradesh, under the directions/orders of the National Green Tribunal (NGT) and guidelines of the Ministry of Environment, Forest and Climate Change (MoEF&CC), GOI which resulted in significant delay in Main Plant and Offsite civil works. The Petitioner has also submitted that the civil works for the generating station commenced in October, 2015 after the initial site levelling works and it required substantial amount of sand for concrete work. It has further submitted that during that time, there were 124 operating sand quarries in the State of MP, and out of these 124 quarries, 63



quarries operated in monsoon too, as the State Environment Impact Assessment Authority (SEIAA) had not imposed any condition to stop mining during the monsoons in the Environment Clearance (EC) granted to these quarries. Accordingly, the Petitioner has submitted that it did not face any shortage of sand during the initial civil works, during the monsoon period of 2015, as minimum 63 sand quarries were in operation. However, the Petitioner has submitted that on 9.6.2016, the MOEF&CC released Sustainable Sand Mining Management Guidelines 2016, which prohibited sand mining from rivers in the rainy season. As per the said guidelines the period of rainy season for the State of MP was considered from 15<sup>th</sup> June 2016 to 1<sup>st</sup> October 2016. Consequent upon this river and sand mining was banned across all the quarries in the State of MP during this monsoon period, resulting in severe shortage of sand available for construction activities, mainly the civil works of the project during the said period. The ban also resulted in impact on the overall progress of the project leading to a delay of 90 days. It is further noticed that excessive controls were exercised by the State Government for deterring sand mining and transportation across the Narmada river belt, in the light of the yatra which drastically reduced the receipts of sand, which restricted the civil/concreting works of the project. In addition to the above, the Mineral Resource Department, Govt. of MP, on 22.5.2017 issued blanket ban on sand mining in the river Narmada, which severely impacted the civil works including the readiness of Make-up Water Pipeline system. Though the Petitioner had tried to arrange sand from neighbouring states, the same could not be arranged in excess due to yatra and since the ban on sand mining during monsoons was universal. Accordingly, the overall progress of work was impacted as under:

- (a) 3 months from July 2016 to September 2016 (first yearly monsoon period with complete ban);
- (b) One and half months during the 'Namami Devi Narmade Yatra' period from 11.12.2016 to 15.5.2017; and



- (c) 2 months during the period June 2017 to September 2017 (ban on mining in Narmada River and second yearly monsoon period with complete ban).

17. In our view, the blanket ban by the State Government of MP had impacted the availability of sand for the construction activities of the generating station. Though the Petitioner has explored the possibility to arrange river sand in advance, the same could not be arranged due to yatra restrictions imposed. The contention of CSPDCL that the Commission in order dated 26.12.2018 in Petition no. 38/RP/2017 had held that ban on sand mining and other related cost are not force majeure events and cannot be condoned, is not applicable to the facts in the present case, while in the said case there was a ban on illegal mining, in the present case there was complete ban for sand mining in monsoons (based on MOEF&CC guidelines) coupled with MRD notice dated 22.5.2017. To the contrary, it is noticed that the Commission vide its order dated 6.12.2019 in Petition No. 197/GT/2017, had held that the disruption in supply of sand on account of various restrictions and ban is an uncontrollable event. The relevant paras of the order are quoted below.

*“14. It is evident from the above orders that extraction activity in respect of minor minerals were directed to be stopped which, in our view, had affected the supply of ‘sand and Moorum’ which are the essential raw materials used in the civil construction of the project. Consequent on this, the civil works of major packages in the main plant and balance of plant got affected from April 2016. Though the Petitioner has not furnished date of lifting of ban and resumption of the supply of minerals pursuant to the judgment of Hon’ble High Court, it is noticed from that Letter No. 715/86-2017- 57(s)/2017 dated 22.4.2017 from the Additional Chief Secretary, Uttar Pradesh, addressed to District officers, Mining Department that the State Government had directed for resumption of mining through e-auctioning procedure. In this background and in the light of the aforesaid orders of the NGT / High Court, we hold that delay caused by disruption in supply of ‘Sand and Moorum’ from April, 2016 till March, 2017 was beyond the control of the Petitioner.”*

18. We, therefore, hold, that the ban on sand mining activities by the State Government of MP, which had resulted in the delay in construction activities of the project is a change in law / force majeure event, which was beyond the reasonable control of the Petitioner. Accordingly, in terms of Regulation 22 (2)(a) &(b) of the 2019 Tariff Regulations, we hold that the delay of 195 days on this count, is an



uncontrollable factor for which the Petitioner cannot be held responsible. Therefore, the said delay is condoned and the liquidated damages recovered from the contractors and insurance proceeds, if any, will be considered for reduction of the capital cost of the project.

**B. Re-engineering of Ash Handling System to account for requirement of Flue Gas Desulphurization (FGD) as per new environment norms**

19. The Petitioner has submitted as under:

- (i) EPC Package for the Project was awarded on 31.03.2015. As the Engineering of several systems, including Ash Handling System, was under finalization, Ministry of Environment, Forest and Climate Change (MoEF&CC) vide Notification dated 07.12.2015 brought out new emission norms for thermal power stations. To meet the new emission norms, installation of Flue Gas Desulphurization (FGD) system became essential in existing thermal power plants as well as new thermal plants on their commissioning.
- (ii) Provisions for FGD in the EPC contract were not incorporated and engineering of the same was also not included. However, the introduction of FGD as per new norms required re-engineering, including design changes and re-layout, of Ash Handling Plant (AHP) and associated systems to accommodate the FGD system optimally. The technology of FGD being new in the country with limited know-how, the decision regarding selection and installation of FGD took reasonable time for all the generators in the country including the Petitioner. Subsequently, the wet lime FGD technology was selected for the Khargone Project and accordingly, the related systems underwent redesigning / re-engineering including Ash Handling Plant to integrate FGD optimally considering the availability of space and cost for various systems.
- (iii) Consequently, the re-engineering including revised key plan of AHP could be finalized only in Nov'2016 against scheduled completion of basic engineering by Dec'2015. The delay in engineering/re-engineering resulted in delay in subsequent designing of various equipment which further led to delay in procurement and installation activities. This delay was not on account of any imprudence of the Petitioner in project execution but was in consequence to the MOEF notification dated 7.12.2015.
- (iv) The Hon'ble Supreme Court, in its order dated 10.12.2018, had extended the timeline to meet new emission norms for under construction plants as well up to December 2022. The instant project was awarded on 31.03.2015, and while the detailed engineering was in progress, the new emission norms were notified on 7.12.2015. To meet the new norms as per the new law/ notification, as described above, Petitioner had no option but to comply with the new emission norms and had to make necessary changes in the basic engineering to integrate the FGD in a cost-effective manner.
- (v) NTPC integrated the FGD in a cost-effective manner by re-engineering the basic design of associated systems, which affected the progress of ongoing works in these areas of the project. To minimize the impact of considerable initial delay of about 11 months due to foregoing, the petitioner expedited the procurement, installation and erection process. Consequently, the delay was reduced to about 5 months only and





Ash Handling System (including High Concentrated Slurry Disposal (HCSD) System), was made ready by August 2019 against scheduled March 2019.

- (vi) As the above delay was not due to any laxity on account of the Petitioner but was due to change in law event caused by MOEF Notification dated 7.12.2015 i.e. introduction of new stringent emission norms, post the award of EPC contract for the Project, the same may please be condoned by the Hon'ble Commission as per Regulation 3(10), 3 (25) read with Regulation 22 (2) of the Tariff Regulations, 2019.

20. The Respondent, CSPDCL has submitted that the submissions of the Petitioner are illogical because the Petitioner had enough time to complete the project and initially FGD implementation was given 2 years' time and hence the prayer for condoning the delay on account of re-engineering of AHP may be rejected. Similar submissions have been made by MPPCL.

21. The submissions have been examined. It is observed that the Petitioner had awarded the EPC contract for the project on 31.3.2015 and while the detailed engineering of the AHS was under finalization, the MOEF&CC, GOI on 7.12.2015 notified the revised emission norms for thermal generating stations. MOEF&CC, GOI on 7.12.2015 notification was applicable for all the existing as well as upcoming plants and as per Government of India directives generating stations were required to have space for FGD in thermal generating stations even before the MOEF&CC, notification dated 7.12.2015. The Petitioner though submitted that the 'Re-engineering of Ash Handling System' was aimed at for reduction of the capital cost of the project but this is not established by Petitioner how much overall cost was reduced. Further, MOEF permitted reasonable time for existing projects and new projects and the implementation of the FGD system was a parallel activity. Therefore, it was not mandatory for the Petitioner to hold the execution of the plant for re-engineering plan of AHP up to November, 2016 against scheduled completion of basic engineering by December, 2015.





22. In view of the above discussion, we are not inclined to consider the Re-engineering of Ash Handling System to account for requirement of Flue Gas Desulphurization (FGD) as per new environment norms as uncontrollable factor amounting to 'Force Majeure' and hence delay is not condoned.

**C. Delay in Make-up water availability due to Right of Way (ROW) issues in execution of 66 kV transmission line works**

23. The Petitioner has submitted as under:

- (i) A 66-kV transmission line, of about 41 km, was to be laid to provide power supply to the Make-up water pump house, which was to be constructed at Omkareshwar Dam;
- (ii) The construction of work required of 344 number towers, stringing of wire, earthing protection, etc. Although, the transmission line work was started on schedule only after obtaining the necessary permission from the state/district authorities and disbursement of compensation to the affected landowners, the Petitioner faced continual resistance from villagers who were demanding higher compensation and forcefully not allowing the Petitioner to work in their land leading to law and order issue.
- (iii) The Petitioner regularly approached district authorities and even worked under police protection at numerous times although a delay of 02 months in making Make-up water available for Plant activities could not be avoided in spite of best efforts.

24. The Respondent MSEDCL has submitted that prima facie the responsibility to acquire the land free from all encumbrances is on the Petitioner and such procedural delay and illegal stoppages of work might have been expected at the time of planning as due diligence might have been carried out by the Petitioner.

25. The submissions have been considered. It is observed that the Petitioner had started the works pertaining to the 66-kV transmission line only after obtaining Right of Way (ROW) and after payment of compensation to the landowners. However, the Petitioner did not furnish the complete details of the sequence of activities date-wise and what were the actual causes and when it was resolved. Further, such demonstrations by land owners are not totally ruled out in establishing such a big project and Petitioner by anticipating the reactions of farmers would have initiated the process well in advance and timely resolution could have been achieved. While



allocating a long timeline of 52 months and 58 months for commissioning of Unit-1 and Unit-2 respectively, expected normal and occasional resentment of people are already included. Such representation of people does not constitute to the any of the uncontrollable factors in prescribed in Tariff Regulation 2014. Regulation (3) (25) of 2014 Tariff Regulations defines the Force Majeure as given below.

*(25) 'Force Majeure' for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the generating company or transmission licensee to complete the project within the time specified in the Investment Approval, and only if such events or circumstances are not within the control the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:*

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

*(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or*

*(c) Industry wide strikes and labour disturbances having a nationwide impact in India;*

26. In view of the above discussion, we are not inclined to consider the delay in Make-up water availability due to Right of Way (ROW) issues in execution of 66 kV transmission line works plan as uncontrollable factor amounting to qualify for the 'Force Majeure' and hence delay is not condoned.

#### **D. Delay due to curfew imposed in Khargone town**

27. The Petitioner has submitted that:

(i) A curfew was imposed in Khargone Town for the period from 23.10.2015 to 31.10.2015, due to incident of stone pelting and violence between two communities.

(ii) Since it was during the initial period of the construction, the staff of the Petitioner and EPC contractor was residing in the town as the site accommodation facility was being developed at site. Due to imposition of curfew staff could not come to site, due to which normal course of erection at site, site supervision and other planned activities were disrupted;

(iii) The 9 days delay due to curfew is beyond the control of the Petitioner.



28. The submissions have been considered. The Petitioner has claimed that the delay due to curfew imposed in Khargone town from 23.10.2015 to 31.10.2015, due to incident of stone pelting and violence between two communities as a 'Force Majeure' event and has sought the condonation of delay for this period. Regulation (3) (25) of 2014 Tariff Regulations defines the Force Majeure as given below.

*(25) 'Force Majeure' for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the generating company or transmission licensee to complete the project within the time specified in the Investment Approval, and only if such events or circumstances are not within the control the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:*

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

*(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or*

*(c) Industry wide strikes and labour disturbances having a nationwide impact in India;*

29. The Petitioner has sought condonation of delay equal to the number of days of disturbance/curfew in nearby town, but has not established as to how the curfew in town, has brought the whole project to a standstill. Further, as discussed above, such short-term disturbances like localized curfew are factored in, while setting the timeline for the project completion. Regulation (3) (25) of 2014 Tariff Regulations, which defines the force majeure, as above, does not include the curfew as a Force majeure event. Therefore, the delay of 7 days due to curfew imposed in Khargone town has not been condoned.

### **E. Delay due to floods in Tamil Nadu**

30. The Petitioner has submitted that the 2015 South Indian floods resulted from heavy rainfall during the annual northeast monsoon in November to December, 2015



and had affected the coromandel coast region of the South Indian States of Tamil Nadu and Andhra Pradesh and the Union Territory of Puducherry. It has also submitted that the city of Chennai alone received a rainfall of more than 1000 mm in the month of November, 2015 and similarly, the area in the coastal region received heavy rainfall during the months of November and December, 2015 thereby, inundating most of the low-lying cities in Tamil Nadu including Chennai. The Petitioner has submitted that due to this, all the installations and public offices/ institutions were closed down for a prolonged period. The Petitioner has further submitted that the continuous rains and floods in Chennai/Tamil Nadu disrupted the operations of facilities of the EPC Contractor (M/s L&T) situated in Chennai and the fabrication/ manufacturing of Khargone's equipment got affected from 11.11.2015 for more than a month. The Petitioner has stated that this delayed the supply of primary structures (Unit-1 SG Area) to the site thereby delaying the entire schedule. Accordingly, the Petitioner has submitted that the delay of 1 month due to heavy rainfall is a force majeure situation which was beyond the control of the Petitioner and may be condoned.

30. The Respondent MSEDCL has submitted that the delay in supply of primary structure by contractor are contractual issues among the Petitioner and its contractors and hence the delay may not be allowed.

31. We have examined the submissions and the documents on record. From the provisions of Regulation (3) (25) of 2014 Tariff Regulations, as quoted under paragraph 28 above, it is evident that exceptionally adverse weather conditions, which are in excess of the statistical measures for the last hundred years, only constitute Force Majeure, otherwise the project developer is expected to take in account the weather affects, while setting the completion schedule. Accordingly, in terms of



Regulation (3) (25) of 2014 Tariff Regulations, the delay due to rainfall/floods, has not been considered as an 'uncontrollable factor' and is therefore not condoned.

**F. Delay due to disturbance in Karnataka and Tamil Nadu (Cauvery Water Dispute)**

32. The Petitioner has submitted that the incidences of protest/violence emerged over Cauvery water dispute resulting into disturbance in the States of Karnataka and Tamil Nadu during the month of September, 2016. The Petitioner has further stated that the situation affected the dispatches of Primary Structure pertaining to Boiler Package from sub-contractor of the EPC contractor (M/s L&T) located in Bellary, Karnataka and Ranipet Tamil Nadu. This delayed the supply of primary structures (Unit-1 SG Area) to the site thereby delaying the entire schedule. Accordingly, the Petitioner has submitted that the delay of about 30 days in the SG works is beyond the control of the Petitioner and the same may be condoned. In support of the submissions the Petitioner has enclosed copy of articles reported in social media.

33. The Respondent MSEDCL has submitted that the delay in supply of primary structure to site by the contractor due to incidences of protests/violence are contractual issues among the Petitioner and its contractors and hence the delay may not be allowed.

34. We have examined the submissions and the documents on record. It is noticed that the delay in supply of primary structure to site, by the contractor, due to incidences of protests/violence, are contractual issues between the Petitioner and its contractors. The Petitioner cannot pass on the inadequacy or lapses of the contractor on to the consumers. The Petitioner may deal with contractors as per the provisions of LD



clause and same can be adjusted against the compensation for delay. In view of the above, the delay is not allowed.

**G. Delay due to demonetization of currency by GOI**

35. The Petitioner has submitted that announcement of demonetization of currencies of higher denomination by GOI with effect from 00:00 Hrs of November 9, 2016, resulted into a countrywide cash-crunch scenario. The Petitioner has further submitted that the transportation of material / equipment from vendor's place to the generating station was immediately affected and trailers carrying equipment to Khargone Site, under transit, also got delayed due to shortage of cash with the drivers and several labourers abruptly left the site for their home place due to panic created by the situation. The Petitioner has also submitted that plans for regular augmentation of labour could not materialize as sub-contractors struggled to mobilize additional manpower from across the country in the prevailing situation of shortage of cash. The Petitioner has stated that despite all possible efforts made by various contractors and the petitioner, the civil and erection work for various critical activities got severely hampered in the month of November 2016 from 9<sup>th</sup> November 2016 onwards. The Petitioner has further submitted that demonetization being a Force Majeure event, the delay of 22 days was beyond the control of the Petitioner and hence the same may be condoned.

36. The Respondents CSPDL and MPPCL have submitted that the delay on account of demonetization of currency is not a force majeure event as these are operational and commercial risks involved in the implementation of project. The Respondent MSEDCL has submitted that there were various alternatives and means



of money transactions through legitimate basis, available even after implementation of demonization across the country.

37. The submissions have been considered. The reasons cited by the Petitioner are not tenable, as transactions between the Petitioner and its contractors would have been cashless only through transfer of money. Further, the delay on account of demonetization of currency is not a force majeure event, as the executing agencies/ contractors are responsible to make arrangement for such transactions. Therefore, the time overrun on account of demonetization is not condoned.

#### **H. Delay due to farmers' unrest in the State of Madhya Pradesh**

38. The Petitioner has submitted that subsequent to the occurrence of two separate incidents of firing in Mandsaur on 6.6.2017, the situation across the State of Madhya Pradesh became very tense. It has also submitted that with the unrest escalating in adjoining districts as well, the vehicular movement on several roads was blocked and even few vehicles were torched and consequently, curfew was imposed at certain locations including Mandsaur & Pipal Mandi. The Petitioner has stated that these unfortunate tragic events impacted the material delivery to the generating station site and mobilization of fresh manpower. It has stated that the long-haul suppliers of contractor displayed caution and preference for deferring deliveries, citing turmoil and many sub-contractors of the main contractor sought further time to mobilize additional manpower, since the workmen were willing to travel to site, only after the situation turned normal. Therefore, the Petitioner has submitted that the delay of 15 days on account of the unrest, was beyond the control of the Petitioner and may therefore be condoned. In support of its contention the Petitioner has enclosed copy of a news article dated 7.6.2017.



39. The Respondents MSEDCL has submitted that the delay in supply of material by contractor are contractual issues among the Petitioner and its contractors and hence the delay may not be allowed. The Respondents CSPDL and MPPCL have submitted that the delay on this count is not a force majeure event as these are operational and commercial risks involved in the implementation of project and the Petitioner must have been aware and could have avoided by planning in advance.

40. The submissions have been considered. The Petitioner has not substantiated its claims through date-wise and specific location-wise curfew. In the absence of any documentary evidence regarding the curfew duration and the exact location, such unrest in some parts of State, does not constitute a force majeure event, and hence time overrun on this count, is not allowed.

#### **I. Delay due to roll out of GST**

41. The Petitioner has submitted that with the notion of 'one nation, one market, one tax', the Government of India, introduced the GST (Goods and Service Tax) pan India on 1.7.2017. The Petitioner has submitted that since the EPC Package for the generating station was awarded in March, 2015 i.e. in a pre-GST regime, the transition from earlier tax structure to the GST regime was quite challenging for the contractors. The Petitioner has further stated that as the GST scheme was being implemented at its rollout, non-clarity on various aspects and less familiarity and usability with the GST based system led to an immediate stoppage or slowdown in the supply of material / equipment to the Project site with effect from July 2017. The Petitioner has also submitted that the GST system being a completely new system, the processes were getting evolved and established on continuous basis leading to suppliers and vendors seeking adequate time to ensure smooth transaction in accordance to GST rules and





regulations. The Petitioner has submitted that subsequently, as more clarity was available, measures were taken by it for settlement of Input Tax Credit (ITC) and facilitate payment to contractors for implication arising due to GST. Accordingly, the Petitioner has submitted that the process of transition from the earlier tax structure to the GST system led to an impact in the progress of the project by 2 months. It has stated that the new tax structure is a change in law event and the delay may be condoned on this ground.

42. The submissions have been considered. The Petitioner has stated that the transition from the earlier tax system to the GST system which impacted the progress of work is a change in law event and the delay may be condoned on this ground. However, no material has been brought on record by the Petitioner (except for letter of M/s L&T dated 18.8.2017) to show as to how it has affected by the aforesaid event, in performance of its obligations, which could not be avoided by exercising reasonable care/control or by complying with prudent utility practices. Therefore, the claim of the Petitioner for condoning the time over run on account of notification of GST is not allowed. Similar claim of the Petitioner (PGCIL) in Petition No. 112/TT/2021 had been rejected by the Commission vide its order dated 3.1.2023.

**J. Delay due to strikes and reduced manpower on account of increase in minimum wages by Govt. of India (GoI)**

43. The Petitioner has submitted that during the implementation of the project, GoI vide Notification dated 19.1.2017, substantially increased the basic part of minimum wages for labour by 40%, i.e. minimum wage for unskilled labour was increased from Rs.250 to Rs.350 per day. The Petitioner has further submitted that although the contractors are compensated by the Petitioner for labour cost inflation as per the contractual escalation clause, which is based on all India CPI index, this compensation



was not adequate considering the steep increase as per GoI notification. The Petitioner has also stated that as the payment of Minimum Wages by contractors to the workers was a statutory requirement, the contracting agencies faced significant financial burden and responded to this situation by reducing manpower and/or stopping wage payments, which was highly unprecedented event, leading to a delay of about one and a half months.

44. The Respondent MSEDCL has submitted that engaging enough manpower is the responsibility of the Petitioner and hence the delay may not be condoned. The Respondent MPPMCL has submitted that the delay in COD are of a general and routine nature, which are often faced by the contractors engaged in the projects.

45. The matter has been considered. It is noticed that the contractors working at the project site had reduced the manpower and the Petitioner had pursued with the agencies for augmentation of manpower in order to expedite the project work. Statutory compliance of the minimum wages as directed by the Government is the primary duty of any agency employing the manpower. If unrest is caused by workers for demanding the wages as prescribed by statutory authority, then the lapses are on the part of employer, and no relief is justifiable on this count. In view of this, the delay is not condoned.

**K. Delay due to nationwide strike of truckers**

46. The Petitioner has also stated that All India Motor Transport Congress declared a nationwide vehicle strike for commercial vehicles from July 20, 2018 and this resulted in delay in en-route consignments for the Project and no new consignments were further placed till the strike was called off on 27<sup>th</sup> July 2018, resulting in a delay in supply of material / equipment to the generating station site which further delayed



the on-going works which resulted in a delay of 9 days. Accordingly, the Petitioner has prayed for condonation of delay on this count.

47. The matter has been considered. It is stated that the All India Motor Transport Congress had declared nationwide commercial vehicle strike from 20<sup>th</sup> July 2018 and in terms of this, the contractor M/s L&T vide letter dated 18.7.2018, in terms of Article 7 of the GCC (force majeure) had informed the Petitioner that it would avoid placement of vehicles from 20<sup>th</sup> July considering the safety of the material till the time the strike is called off. It is noticed that the Petitioner did not specifically provide the list of items/equipment's held-up in transit and to which package such components belonged to and what otherwise was the schedule of delivery of such components. Any general strike by a transporter does not automatically converts in for condoning equal number of days of delay, without correlating it to the specific activity. In view of the above, such delay due to trucker's strike is not condoned.

**L. Delay in issuance of CTO for Unit-I and Unit-II**

48. The Petitioner has submitted that in anticipation of COD of Unit-I of Khargone STPP by the end of September 2019, the Petitioner applied for Consent to Operate (CTO) of Unit-I to the Regional Officer, MP Pollution Control Board (MPPCB), Indore, in advance on 1.7.2019, considering the procedural time (along with application file vide letter dated 17.8.2019). After applying for the CTO, the Petitioner has submitted that it constantly pursued the matter with the MPPCB, for issuance of CTO, in respect of Khargone Project. In this regard, the officials of the Petitioner company, approached MPPCB many times, and held number of deliberations & continuous dialogue for early issuance of CTO. Subsequently, the trial operation of Unit-I was completed on 29.9.2019. However, MPPCB did not issue the CTO, on account of unavailability of FGD, required to meet emission norms as per MOEF&CC notification dated



7.12.2015. In the absence of the CTO, the Unit couldn't be declared commercial even when all the systems were ready for sustained operation. From the submissions of the Petitioner it is observed that CTO was held up due to non-readiness of the FGD system and Petitioner even approached MOP, GOI *vide* letter dated 13.03.2020 to take up the matter with MOEF&CC/ CPCB. The Petitioner continued with its efforts for grant of CTO and a letter was issued to Member Secretary, MPPCB on 26.03.2020. It is pertinent to note that Supreme Court *vide* Order dated 10.12.2018 had already extended the deadline to meet emission norms to 2022. On continuous persuasion by NTPC, MPPCB in Oct'19 took up the matter with Central Pollution Control Board (CPCB) regarding guidance on extension for installation of FGD so as to enable disposal of CTO cases. Furthermore, NTPC also took up the matter with Ministry of Power (MoP), GoI *vide* letter dated 24.10.2019. Consequently, CPCB *vide* letter dated 20.12.2019 gave relaxation for immediate requirement of FGD and set the timeline of July 2021 for FGD of Unit-I of the Khargone Project. Based on the same, MPPCB eventually issued letter of CTO for Unit-I of Khargone Project on 09.01.2020.

49. Based on the above discussion, it is evident that the SPCB had delayed the issuance of CTO for the want of FGD. The timelines for installation of FGD were already extended in 2018 itself by MOEF&CC. Further, SPCB delayed the process of CTO for the want of clarification from the central statutory authorities. Therefore, the time overrun from trial run to date of grant of CTO, was an un-controllable factor, on behalf of the Petitioner and hence same is condoned.

#### **Non-readiness of power evacuation system**

50. The Petitioner has submitted that when the CTO for Unit-I was received on 9.1.2020, from MPPCB, the Associated Transmission System (ATS) for evacuation of



power from Khargone STPP was still not available. It is stated that following transmission system associated with Khargone STPP, was agreed in the Standing Committee of Western Region (WR):

- 1 Transmission system for start-up power and commissioning activities:
  - (i) LILO of one ckt of Rajgarh-Khandwa 400 kV D/C line at Khargone TPP
2. Transmission system for evacuation of power from Khargone TPP:
  - (i) Khargone TPP Switchyard – Khandwa Pool 400 kV D/C (Quad) line
3. System Strengthening in WR in time frame of Khargone TPP:
  - (i) Khandwa Pool – Indore 765 kV D/C line
  - (ii) Khandwa Pool – Dhule 765 kV D/C line
  - (iii) Establishment of 765/400kV, 2x1500MVA pooling station at Khandwa pool.

51. The Petitioner has further submitted that as per the Transmission Service Agreement (TSA) dated 14.3.2016, LILO of one circuit of Rajgarh – Khandwa line was to be commissioned by February, 2018 while remaining elements of the transmission system were to be completed and commissioned by July, 2019. The Petitioner has also submitted that LILO of one ckt of Rajgarh – Khandwa line was made ready and charged by M/s Khargone Transmission Limited (KTL) in July 2018 and the synchronization of Unit-I of Khargone STPP was done using this LILO line on 27.6.2019. However, the execution work of other elements of the ATS were delayed w.r.t. the schedule of July 2019 due to force majeure and change in law events as submitted by M/s KTL. Further, since LILO was only meant to be used for start-up power and commissioning activities, the Petitioner approached CEA to grant approval for use of the available LILO of one ckt of Rajgarh-Khandwa line for power evacuation during trial run and subsequent commercial operation of Unit-I till the planned evacuation system of Khargone STPP was readied. The same was agreed by CEA in the meetings dated 29.07.2019/05.08.2019. In the meeting, it was also committed by M/s KTL to ready the Khargone TPP – Khandwa line by October 2019. Subsequently,



the Petitioner has stated that as the ATS could not be readied by M/s KTL even in December 2019 when the Unit-II was getting ready for synchronization, the Petitioner approached the CEA to grant approval for commissioning activities of Unit-II through existing LILO of one ckt of Rajgarh-Khandwa line. CEA, in the meeting dated 19.12.2019, agreed for the same subject to the total generation from Unit-I and Unit-II restricted to the capacity of only one unit at Khargone STPP (i.e. 660 MW). It was also committed by M/s KTL in this meeting to complete the Khargone TPP – Khandwa pool line by first week of January 2020. It is submitted by the Petitioner that it took best efforts and made regular correspondence/discussions with M/s KTL to expedite the works of ATS.. It is further submitted by the Petitioner that M/s. KTL had approached the Hon'ble Commission vide Petition No 308/MP/2019 (and IA No. 78/2019) seeking an extension in the scheduled COD along with compensatory and declaratory relief on account of Force Majeure and Change in Law events. During the course of hearing in IA No. 78/2019 on 15.10.2019, M/s. KTL had committed that the required ATS for evacuation of power from the generating station, would be commissioned by November 2019. While disposing of the IA No. 78/2019, Hon'ble Commission directed M/s. KTL to ensure that Khargone-Khandwa Pool-Indore corridor is completed and put into operation matching with the timeline of commissioning of the Unit-II of the generating station. Further, while disposing of the Petition No 308/MP/2019, the Commission noted the Force Majeure and Change in Law events put up by M/s. KTL and granted liberty to approach the Commission for appropriate relief, in terms of the provisions of the TSA after completion of the project. It is further submitted by the Petitioner that when the CTO for Unit-I was received on 9.1.2020, the ATS was still not made ready by M/s. KTL and the operationalization of LTA for Unit-I was yet to be granted by CTU as CTU was of the opinion that the LTA should be operationalised



with the planned ATS whenever it is completed. The Petitioner has submitted that earlier it had requested the CTU vide letter dated 3.12.2019 to arrange for power evacuation to long term beneficiaries through LILO of one ckt of Rajgarh-Khandwa line, as agreed to by CEA in the meeting dated 5.8.2019.

52. In the above background, the Petitioner has submitted that Unit-I was ready for COD immediately after trial operation on 29.9.2019, but, due to delay in readiness of Khargone TPP – Khandwa 400 kV D/C line, the COD of Unit-I could be declared only on 1.2.2020 (using the LILO of one ckt of Rajgarh-Khandwa 400 kV D/C line). The Petitioner has further submitted that it is pertinent to mention that even if the CTO was received in time, the COD of Unit-I could not be declared immediately after trial operation due to non-availability of ATS/non-operationalization of LTA. The COD of Unit-I of the station could be declared only on 1.2.2020, after LTA operationalization on 31.1.2020.

53. The Respondent KTL has submitted that the various elements of the transmission system were delayed due to force majeure events, the said uncontrollable delays have not in any manner prevented the Petitioner from evacuating power from its generating station on and from the COD of its units for any reasons attributable to KTL. KTL has also submitted that while it had made alternate arrangements for both the units in advance of their respective COD's, the actual COD for both the units was admittedly delayed due to delay by MPPCB in granting the consent to operate for the said units, as such it had submitted that no liability whatsoever ought to be imposed on KTL for the delay in achieving the COD by the Petitioner.



54. The submissions of the parties have been considered. It is observed that even after obtaining the CTO on 9.1.2020, the Petitioner had waited till the LTA operationalization on 31.1.2020 and had declared COD on 1.2.2020. The Respondent KTL also submitted that alternative arrangement was made available. In this background, there was no reason for the Petitioner to delay the declaration of COD during the period from 9.1.2020 to 1.2.2020, as the COD would have been declared by using the LILO. Hence, we find no reason to condone the delay for the period from 9.1.2020 to 1.2.2020. Accordingly, the delay of 23 days on account of unavailability of power evacuation system, is not condoned.

**Unit-II: Milestone wise analysis of Time Overrun**

55. The Petitioner vide its affidavit dated 6.10.2022 has submitted the chronological details of delay in COD of Unit-II as under:

Sl. No	Description of activities	Original schedule (as per planning)		Actual schedule (As per actual)		Time Over-Run Days	Major reasons for delay
		Start date	Completion date	Actual start date	Actual completion date		
1	Zero Date	31-03-2015		31-3-2015		0	
2	Boiler & ESP - Civil & Structural Erection Works	28-2-2016	08-2-2019	28-2-2016	31-8-2019	204	1. Non-availability of sand due to ban on sand mining by State Govt. 2. Demonetization of higher currency notes resulted into exodus of manpower 3. Farmers' unrest in Mandsaur (MP) caused supply chain disruption and delayed planned manpower augmentation 4. Transition from prevailing tax structure to new GST based tax structure affected manufacturing and





							supply of material in the transition period. 5. Strikes and reduction of manpower on account of increased minimum wages as per new Govt. notification (hike in basic wages was about 40% more than the existing wages) 6. Nationwide strike of truckers caused supply chain hindrances
3	Steam Generator Works	30-11-2016	31-7-2019	30-11-2016	31-12-2019	153	1. Delay due to reasons as mentioned for activities at Sl. No. 2 and 5
4	TG on Barring	30-4-2019	30-4-2019	25-10-2019	25-10-2019	178	1. Delay in Civil & Structural works owing to reasons of delay as mentioned for activity at Sl. No. 2
5	Steam Blowing	01-5-2019	31-5-2019	22-11-2019	17-12-2019	200	1. Delay in Civil & Structural works owing to reasons of delay as mentioned for activity at Sl. No. 2
6	Synchronization	31-7-2019	31-7-2019	31-12-2019	31-12-2019	153	1. Delay due to reasons as mentioned for activity at Sl. No. 5
7	Trial Operation	20-1-2020	23-1-2020	20-1-2020	23-1-2020	0	
8	COD	31-1-2020	31-1-2020	4-4-2020	4-4-2020	64	1. Non-availability of Associated Transmission System for Power Evacuation 2. Delay in Issuance of CTO on account of change in emission norms for thermal power stations by MOEF&CC.

56. It is observed that the reasons for the delay in respect of each of the activities as mentioned above, have already been discussed in the previous paragraphs, while examining the issue of time overrun in respect of Unit-I, on prudence check.



Accordingly, in terms of the above decision, the delays in respect of Unit-II have been condoned/not condoned, for the reasons stated therein (in respect of Unit-I).

57. As per submissions of the Petitioner, in the petition, the transmission corridor (Khargone-Khandwa- Indore) for evacuation of power from Khargone STPP was commissioned on 19.3.2020 and subsequently, CTO for Unit-II was issued by MPPCB on 1.4.2020. The delay period from 23.1.2020 (trial run) to 19.3.2020 on account of delay in evacuation system is subsumed in the delay period from 23.1.2020 to 1.4.2020, in obtaining the CTO on 1.4.2020 by the generator. The Petitioner had declared COD on 4.4.2020. The time overrun from trial run date of unit-II (23.1.2020) to date of grant of CTO was an un-controllable event, by the Petitioner and hence same is condoned.

58. Based on the decision on time overrun due to various factors as stated above, the delay in COD of Unit-I for 162 days and delay in COD of Unit-II by 64 days is condoned.

59. Accordingly, the time overrun allowed, as against the actual time overrun for Unit-I and Unit-II for the purpose of IDC and IEDC is summarized below:

	<b>SCOD</b>	<b>Actual COD</b>	<b>Time overrun submitted by the Petitioner</b>	<b>Time overrun condoned</b>	<b>SCOD (reset for IDC and IEDC Computation)</b>
Unit-I	31.7.2019	1.2.2020	185 days	162 days	9.1.2020
Unit-II	31.1.2020	4.4.2020	64 days	64 days	4.4.2020

### **Capital Cost**

60. 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 determination of tariff for existing and new projects. Clause 2 of Regulation 19 of the 2019 Tariff Regulations provides as under:

*“(2) The Capital Cost of a new project shall include the following:*

- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) 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.”*

61. The IA of the project is based on the SBI cap appraised current estimated cost of Rs.9870.51 crore as of 1<sup>st</sup> quarter of 2015 price level and the corresponding indicative estimated completed cost of Rs.11148.86 crore. Considering the IA towards



FGD and Smart City Initiative, the estimated approved cost works out to Rs.10547.64 crore.

**Capital Cost as on COD of Unit-I**

62. The Petitioner has claimed capital cost of Rs.648866.56 lakh, on cash basis, as on COD of Unit-I. The details of the capital cost claimed by the Petitioner as on COD of Unit-I is as under:

<i>(Rs. In lakh)</i>	
	<b>Amount</b>
Gross Block as per IND AS as on COD of Unit-I	648533.77
Add: IND AS adjustments	2168.64
<b>Gross Block as per IGAAP as on COD</b>	<b>650702.40</b>
Less: Un-discharged liabilities included above	62618.92
<b>Gross Block as per IGAAP, on cash basis, as on COD of Unit-I</b>	<b>588083.48</b>
Add: Advance to Railways towards augmentation works not capitalised in the books	48700.00
Add: FERV charged to revenue	4400.63
Add: Notional IDC	329.00
Add: Un-amortized bond issue expenses	7353.45
<b>Capital cost claimed as on COD of Unit-I</b>	<b>648866.56</b>

63. The auditor certified capital cost on accrual basis as well as on cash basis amounting to Rs.650702.40 lakh and Rs.588083.48 lakh, respectively, as on COD of Unit-I is inclusive of IDC and FC of Rs.60818.27 lakh and FERV of Rs.4815.43 lakh. Accordingly, the hard cost component of capital cost as on COD of Unit-I works out to Rs.585068.71 lakh on accrual basis and Rs.522449.79 lakh on cash basis. The hard cost, on accrual as well as on cash basis, as on COD of Unit-I also includes IEDC of Rs.27526.50 lakh.

64. The Petitioner, in Form-B, has submitted a total hard cost of Rs.571149.79 lakh as on COD of Unit-I. In justification of the variation between the hard cost on cash basis in Form-B and that as per the auditor certified capital cost, the Petitioner has submitted that advance of Rs.48700.00 lakh paid to the Railways for augmentation



works has not been capitalized in the books of accounts being an advance, however, for the purpose of the tariff it has been considered as a part of capital cost.

### **Railway augmentation deposit works**

65. The Petitioner has claimed Rs.48700.00 lakh towards Railway infrastructure and augmentation works and has submitted Khargone is a non-pit head station with supply of coal envisaged primarily from the captive mine of NTPC i.e. Pakri Barwadih (Hazaribagh), located in the state of Jharkhand, and therefore the coal can be transported to the generating station from captive mine of the Petitioner and other sources through the railway network. The Petitioner has submitted that accordingly, for coal take off from rail network, the railway siding of approx. 37 Km was kept in the scope of the generating station as last mile connectivity, that has been developed by the Petitioner from Khargone STPS to Nimarkheri, situated on the Railway network of Khandwa-Indore section, owned and operated by Indian railways. The rails section from Nimarkheri to Khandwa & Khandwa bypass were single line meter gauge, and to facilitate the transportation of coal for the instant station, it was essential that the meter gauge line may be converted to the broad-gauge line. In view of the necessity of the generating station to complete the project as per schedule, and ensuring uninterrupted supply of coal to the station from different captive mine including other sources to keep the station available on sustained basis for serving the beneficiaries, the Petitioner has stated that it took up the matter with Western Railways (Indian Railways). The Petitioner has further submitted that regarding the gauge conversion of this railway line, Railway suggested the Petitioner to opt for any of the routes, as mentioned in the Railway Board Policy dated 10.12.2012, to take up infrastructure works expeditiously to meet the requirement of coal transportation for Khargone STPS in line with the scheduled commissioning of the generating station.



66. The Petitioner submitted that it opted for “Capacity Augmentation (Doubling/ Third Line/ Fourth Line, etc.) with Funding provided by customers” so as to address the issue of shortage of funds with Railway and prioritize the works for gauge conversion of identified Khandwa-Nimarkheri railway line of approx. 42 Km to ensure timely availability of coal transportation infrastructure for the Khargone Project. As per the arrangement, Railway shall pass on the rebate from the freight for amount equivalent to the sum of 7% of the disbursed amount along with interest @ 4% per annum after COD of the asset (i.e. post completion of gauge conversion). Further, in this regard, a meeting was held on 3.12.2014 between the Petitioner and Indian Railway regarding participation through customer funding model and an amount of Rs.487 crore was demanded by Railway for gauge conversion works pertaining to Khargone Project vide letter dated 26.12.2014. In the investment approval for Khargone Project accorded by NTPC Board in its 417<sup>th</sup> meeting held on 25.02.2015, an amount of Rs.487 crore was designated for gauge conversion works of identified Khandwa-Nimarkheri railway line. This amount of Rs.487 crore was deposited as advance with Indian Railway on 26.3.2015.

67. The Petitioner has also submitted that for pit head generating stations, the transportation of coal from linked mines to concerned generating station is through dedicated Merry-go-round (MGR) system operated & owned by the Petitioner. Further, for supply of coal to non-pit head power stations in the past, it has generally adopted the practice of developing last mile connectivity of rail infrastructure mostly in the form of sidings from the nearest railway station. Such works have been generally offloaded for execution to the Indian Railways/RITES/IRCON on deposit work basis. The Petitioner has submitted that the capital cost of the MGR or the rail infrastructure developed for last mile connectivity is admitted as part of the capital cost of the power



project for the purpose of tariff in accordance with prevailing Tariff Regulations. The Petitioner has also stated that in the present case, it has got the last mile connectivity developed under the original scope of the project, however, the utilisation of the same was dependent upon the suitability of existing railway network wherefrom the fuel was envisaged to be transported to the station, and therefore, to make the existing railway system adaptable for the Petitioner's requirements, it had no other option than to accept one of the models for funding of the work for the asset owned and operated by Western Railway(MOR). Accordingly, the Petitioner has submitted that under Investment Approval for Khargone Project, an advance payment to Railway for gauge conversion was allocated under the original scope of works of the Project.

68. The Respondent MPPMCL and CSPDCL have submitted that there is no mention of the amount of Rs.487.00 crore in the IA accorded for the plant. The Respondent MPPMCL has also submitted that capital expenditure of Rs. 487.00 crore towards gauge conversion would eventually be recovered through rebate of 7% and interest will also be paid by the Railways on the reducing balance and hence this expenditure should not be allowed as a part of capital cost. The Respondent CSPDCL has submitted that the reliance of the Petitioner on Regulation 19(1) and Regulation 19(2) of the 2019 Tariff Regulations is wrong as the gauge conversion works of the identified is related to transportation cost and any other appurtenant cost paid to railways and hence shall not be allowed as a part of the capital cost. The Respondent has also submitted that Commission vide its order dated 15.2.2016 in Petition 59/MP/2015 has disallowed a similar claim of the Petitioner.

69. The submissions have been considered. It has been observed that Commission vide order dated 15.2.2016 in Petition 59/MP/2015 and order dated 8.1.2020 in





Petition No. 199/GT/2017 has disallowed the similar claim of the Petitioner. The relevant extract of the order dated 8.1.2020 in Petition 199/GT/2017 filed by the Petitioner for Kudgi (another generating station of the Petitioner) is as under:

*89. We have considered the matter. In order to ensure timely availability of rail infrastructure for supply of coal to project of the Petitioner, the Board of Petitioner Company had decided to undertake the implementation of the Rail infrastructure projects associated with the upcoming Kudgi Power Project in terms of the Policy of the Ministry of Railway dated 10.12.2012. It is pertinent to mention that the Petitioner had earlier filed Petition No. 59/MP/2015 seeking in-principle approval for considering the expenditure incurred through the Indian Railways for timely completion of rail connectivity and/ or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of power projects for the purpose of tariff. It had also submitted, amongst others, that as per the Railway Board Policy dated 10.12.2012, an amount of Rs.902.57 crore (Rs.400 crore for Doubling of Hotigi-Bijapur-Gadag line, Rs. 250 crore for Flyover at Bakthiyarpur including 3rd line and surface triangle, Rs.140 crore for Electrification of Manpur-Tilaiya-Bakthiyarpur line and Rs.112.57 crore for Gauge Conversion of balgona-Kotwa section) has been deposited with Railways under Customer Funding Model to facilitate seamless transportation of coal rakes for its upcoming Super Thermal Power Projects at Kudgi, Barh Stage II and Kotwa. However, the Commission vide its order dated 15.2.2016 rejected the prayer of the Petitioner and held as under: "6. We have perused the said order dated 29.7.2010. In our view, the said order does not support the case of the Petitioner. It is not mandatory for the Petitioner to participate in the scheme under the Customer Funding Model as per the Policy of Ministry of Railways. As per the Policy, the fund provided by NTPC shall be refunded by Railways through rebate in the freight which may be up to 7% of the amount invested every year. Further, NTPC will receive interest on the funds provided by it to Railways at a rate equal to prevailing rate of dividend payable by Railways to the general exchequer.*

*7. In our view, the request of the Petitioner to capitalize of such expenditure on funding provided to Railways in the capital cost of the power projects cannot be allowed. However, NTPC may retain the rebate in freight charges in consideration of the investment made by NTPC. It is, however, clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to NTPC."*

*90. It is further noticed that the Petitioner had also not obtained the consent of any of the beneficiaries prior to such huge expenditure being incurred by it. In this background and in the light of the aforesaid decision, we are not inclined to allow the said expenditure claimed by the Petitioner towards Railway augmentation deposit work. It is however made clear that the Petitioner shall retain the rebate in freight charges in consideration of the investment made by the Petitioner. It is, also clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to the Petitioner.*

70. It is observed, that in the present Petition, the Petitioner has not obtained the consent of the beneficiaries prior to the huge expenditure being incurred. Thus, in the light of the decision of the Commission's order dated 15.2.2016 in Petition 59/MP/2015 and order dated 8.1.2020 in Petition 199/GT/2017, we disallow the said expenditure





as a part of capital cost. It is however, made clear that the Petitioner shall retain the rebate and the interest paid by the Railways in consideration of the investment made by the Petitioner. It is, also clarified that the beneficiaries will be charged at the normal freight charges in tariff without considering the rebate in freight charges to the Petitioner.

### **IEDC**

71. As stated above, the hard cost, on accrual as well as on cash basis, as on COD of Unit-I also includes IEDC of Rs.27526.50 lakh. However, considering the details of IEDC as furnished by the Petitioner the allowable IEDC, after adjustment of depreciation capitalised to gross block and forming part of it, subject to truing up, amounting to Rs.1869.06 lakh as on COD of Unit-I works out to Rs.25657.44 lakh. Further, considering time overrun of 23 days not condoned for the purpose of tariff the allowable IEDC, subject to truing up, works out to Rs.25323.66 lakh. Accordingly, the hard cost considered for the purpose of tariff, as on COD of Unit-I, works out to Rs.520246.95 lakh (net of un-discharged liabilities of Rs.62618.92 lakh).

### **IDC & FC**

72. The Petitioner has claimed IDC & FC amounting to Rs.60818.27 lakh as on COD of Unit-I. However, it has been observed that the Petitioner has not submitted the documentary evidence/details of the interest rates and exchange rates pertaining to various loans considered for the purpose of calculation of IDC. Further, it is also not clear that the advance of Rs.48700.00 lakh paid to the Railways has not been considered for the purpose of calculation of IDC. Accordingly, based on available details the prudence check of IDC claimed by the Petitioner cannot be carried out at this stage. Further, since the tariff of the generating station is subject to truing up, for



the present IDC & FC as claimed by the Petitioner is allowed and the Petitioner is directed to furnish appropriate details to carry out prudence check of IDC calculations at the time of truing up of tariff. Further also, the impact of time overrun of 23 days not condoned, for the purpose of tariff as on COD of Unit-I, on IDC & FC shall be considered at the time of truing up. Accordingly, IDC & FC of Rs.60818.27 lakh has been considered for the purpose of tariff, subject to truing up of tariff, as on COD of Unit-I.

### **FERV**

73. The Petitioner has claimed FERV amounting to Rs.4815.43 lakh as on COD of Unit-I. Considering the details of drawls, repayment and exchange rates, the Petitioner's claim is found to be in order and accordingly the same is allowed for the purpose of tariff.

### **Notional IDC**

74. The Petitioner has claimed an amount of Rs.329 lakh as notional IDC as on COD of Unit-I. As noted above, the prudence check of IDC calculations cannot be carried out at this stage. Further, considering the fact that notional IDC numbers are dependent on IDC workings, /calculations, we, at present, allow the notional/normative IDC of Rs.329.00 lakh, as claimed by the Petitioner. This is however subject to truing up of tariff, as on COD of Unit-I.

### **FERV charged to Revenue**

75. The Petitioner has claimed an amount of Rs.4400.63 lakh, as on COD of Unit-I towards FERV charged to revenue [Rs.5360.09 lakh on account of loan FERV charged to revenue post 1.4.2016, (-) Rs.199.69 lakh pertaining to short term FERV and (-) Rs.759.78 lakh pertaining to other than loan FERV]. As per consistent methodology



adopted by the Commission, FERV charged to revenue upto COD is allowed as part of capital cost for the purpose of tariff. As such, Rs.4400.63 lakh is allowed under this head.

### **Un-amortized Finance cost**

76. The Petitioner has claimed amount of Rs.7353.45 lakh as un-amortized bond issue expenses corresponding to loan drawn after implementation of IND-AS. The Petitioner has submitted that in the erstwhile IGAAP, loan issue expenses paid upfront were accounted as and when incurred and the same used to be claimed as part of IDC. However, the Petitioner has stated that under IND AS, the upfront bond issue expenses are to be amortized over the tenure of loan resulting in part capitalization of IDC.

77. It appears from the above submissions, that the claim under this head is on account of differential treatment of upfront fees under IND AS and IGAAP. Further, the claim is over and above the auditor certified (cash) capital cost (as per IGAAP) amounting to Rs.588083.48 lakh. Since the auditor certified cash capital cost of Rs.588083.48 lakh is as per IGAAP, any further adjustment to the same on account of IND AS adjustment is not justifiable. Accordingly, the Petitioner's claim under this head has been disallowed for the purpose of tariff and will be considered at the time of truing up of tariff, based on revised auditor certificate in respect of capital cost as on COD of Unit-I, if any, furnished by the Petitioner.

78. In view of the above, the allowable capital cost as on COD of Unit-I works out to Rs.590610.27 lakh.



**Additional Capital Expenditure for the period from COD of Unit-I to COD of Unit-II:**

79. The Petitioner has claimed additional capital expenditure amounting to Rs.24726.83 lakh for the period from COD of Unit-I till COD of Unit-II. This includes an expenditure of Rs.10947.43 lakh towards works pertaining to the original scope of work and discharge of liabilities of Rs.13755.73 lakh for 2019-20 (i.e. from COD of Unit-I to 31.3.2020) and discharges of liabilities of Rs.23.67 lakh for 2020-21 (i.e. from 1.4.2020 to COD of Unit-II).

80. As per the consistent methodology adopted by the Commission the entire additional capital expenditure amounting to Rs.24726.83 lakh is allowed, being part of original scope of work and within the cut-off date of the generating station. Further, the Petitioner has not furnished any liability against the additional capital expenditure of Rs.10947.43 lakh claimed for the period from COD of Unit-I to 31.3.2020, in Form-9. However, on scrutiny of Form-S (Statement of Liability flow) it is observed that there is liability addition of Rs.8015.89 lakh during the period from COD of Unit-I to 31.3.2020 and the Petitioner has not furnished any justification/ reconciliation for not considering the same in Form-9. The Petitioner has also not furnished Form-I (Details of Assets de-capitalised during the period), Form-J (Reconciliation of capitalisation claimed vis-à-vis books of accounts) and Form-K (Statement showing details of items/ assets/ works claimed under exclusions) to reconcile the Petitioner's claim with the books of accounts. Accordingly, for the present, the liability of Rs.8015.89 lakh has been adjusted to arrive at the admissible additional capital expenditure, for the period from COD of Unit-I to 31.3.2020. Further, the Petitioner is directed to furnish Form-I, Form-J and Form-K for the period from COD of Unit-I to 31.3.2020 and from 1.4.2020 to COD of Unit-II along with auditor certified reconciliation of Gross Block, on cash as



well as accrual basis, as per IND AS and IGAAP as on 31.3.2020, at the time of truing up of tariff. Accordingly, the additional capital expenditure of Rs.16687.27 lakh for the period from COD of Unit-I to 31.3.2020 and Rs.23.67 lakh for the period from 1.4.2020 to COD of Unit-II, is allowed.

**Capital Cost as on COD of Unit-II/Station**

81. The Petitioner has claimed capital cost of Rs.967186.23 lakh, on cash basis, as on COD of Unit-II. The details of the capital cost claimed by the Petitioner as on COD of Unit-II is as under:

	<i>(Rs. In lakh)</i>
	<b>Amount</b>
Gross Block as per Ind AS as on the COD of Unit-II	958556.04
Add: IND AS adjustments	2170.61
<b>Gross Block as per IGAAP, on accrual basis, as on COD of Unit-II</b>	<b>960726.65</b>
Less: Un-discharged liabilities included above	71022.50
<b>Gross Block as per IGAAP, on cash basis, as on COD of Unit-II</b>	<b>889704.45</b>
Add: Advance to Railways towards augmentation works not capitalised in the books	48700.00
Add: FERV charged to revenue	20897.07
Add: Notional IDC	412.30
Add: Un-amortized bond issue expenses	7472.41
<b>Capital cost claimed as on COD of Unit-II/Station</b>	<b>967186.23</b>

82. The auditor certified capital cost on accrual basis as well as on cash basis amounting to Rs.960726.65 lakh and Rs.889704.45 lakh, respectively, as on COD of Unit-II is inclusive of IDC & FC of Rs.96526.19 lakh and FERV of Rs.10852.47 lakh. Accordingly, the hard cost component of capital cost as on COD of Unit-II works out to Rs.853347.99 lakh on accrual basis and Rs.782325.79 lakh on cash basis.

83. The hard cost, on accrual as well as on cash basis, as on COD of Unit-II also includes IEDC of Rs.43931.20 lakh. The Petitioner in Form-B, has submitted a total hard cost of Rs.831025.79 lakh as on COD of Unit-II. In justification of the variation between the hard cost on cash basis in Form-B and that as per the auditor certified



capital cost, the Petitioner has submitted that the advance of Rs.48700.00 lakh paid to the Railways for augmentation works though has not been capitalized in the books of accounts being an advance, however, for the purpose of the tariff it has been considered as a part of capital cost. As stated earlier, the advance paid by the Petitioner towards the Railway infrastructure and augmentation works has not been considered for the purpose of tariff.

### **IEDC**

84. As stated above, the hard cost, on accrual as well as on cash basis, as on COD of Unit-II also includes IEDC of Rs.43931.20 lakh. However, considering the details of IEDC as furnished by the Petitioner the allowable IEDC, after adjustment of depreciation capitalised to gross block and forming part of it, subject to truing up, amounting to Rs.2833.48 lakh as on COD of Unit-II works out to Rs.41097.72 lakh. Further, considering the IEDC disallowed amounting to Rs.333.78 lakh corresponding to time overrun of 23 days not condoned as on COD of Unit-I, the IEDC of Rs.40763.94 lakh is allowed.

85. In view of the above, the hard cost considered for the purpose of tariff, as on COD of Unit-II/Station, works out to Rs.779158.53 lakh (net of un-discharged liabilities of Rs.71022.20 lakh).

### **IDC and FC**

86. The Petitioner has claimed IDC & FC amounting to Rs.96526.19 lakh as on COD of Unit-II. However, it is observed that the Petitioner has not submitted the documentary evidence of the interest rates and exchange rates pertaining to various loans considered for the purpose of calculation of IDC. It is also not clear as to whether the advance of Rs.48700.00 lakh paid to the Railways, has been considered or not for



the purpose of calculation of IDC. Accordingly, based on available details the prudence check of IDC claimed by the Petitioner cannot be carried out at this stage. Further, since the tariff of the generating station is subject to truing up, for the present IDC & FC as claimed by the Petitioner is allowed. The Petitioner is directed to furnish relevant details to carry out prudence check of IDC calculations, at the time of truing up of tariff. Also, the impact of time overrun of 20 days which has not been condoned, for the purpose of tariff as on COD of Unit-I, on IDC & FC shall be considered at the time of truing up of tariff. Accordingly, IDC & FC of Rs.96526.19 lakh has been considered for the purpose of tariff, as on COD of Unit-II/Station.

### **FERV**

87. The Petitioner has claimed FERV amounting to Rs.10852.47 lakh as on COD of Unit-II. Considering the details of draws, repayment and exchange rates, the Petitioner's claim is found to be in order and accordingly the same is allowed for the purpose of tariff.

### **Notional IDC**

88. The Petitioner has claimed an amount of Rs.412.30 lakh as notional IDC as on COD of Unit-II. However, in line with the decision above, for the present we allow the notional/ normative IDC of Rs.412.30 lakh as claimed by the Petitioner, subject to the truing up of tariff, as on COD of Unit-II/Station.

### **FERV Charges to Revenue**

89. The Petitioner has claimed an amount of Rs.20897.07 lakh as on COD Unit-II towards FERV charged to revenue [Rs.2028.10 lakh on account of loan FERV treated as borrowing cost and charged to revenue post 1.4.2016, Rs.19029.74 lakh on account of loan FERV charged to revenue post 1.4.2016, (-) Rs.199.69 lakh pertaining



to short term FERV and Rs. 38.92 lakh pertaining to other that loan FERV]. As per consistent methodology adopted by the Commission, FERV charged to revenue upto COD is allowed as part of capital cost for the purpose of tariff. As such, Rs.20897.07 lakh is allowed under this head.

### **Un-amortized Finance Cost**

90. The Petitioner has claimed amount of Rs.7472.41 lakh as un-amortized bond issue expenses corresponding to loan drawn after implementation of IND AS. The Petitioner has submitted that in the erstwhile IGAAP, loan issue expenses paid upfront were accounted as and when incurred and the same used to be claimed as part of IDC. However, under IND AS, the upfront bond issue expenses are to be amortized over the tenure of loan resulting in part capitalization of IDC.

91. It appears from the submissions of the Petitioner that the claim under this head is on account of differential treatment of upfront fees under IND AS and IGAAP. Further, the claim is over and above the auditor certified (cash) capital cost (as per IGAAP) amounting to Rs.889704.45 lakh. Since the auditor certified cash capital cost of Rs.889704.45 lakh is as per IGAAP, any further adjustment to the same on account of IND AS adjustment is not justifiable. Accordingly, the Petitioner's claim under this head has been disallowed for the purpose of tariff and will be considered at the time of truing-up of tariff, based on the revised auditor certificate in respect of capital cost as on COD of Unit-II, if any, furnished by the Petitioner.

92. In view of the above, the allowable capital cost as on COD of Unit-II/Station works out to Rs.886537.19 lakh.

### **Initial Spares**

93. Regulation 23 of the 2019 Tariff Regulations provides as under:





*“13. Initial Spares: Initial spares shall be capitalized as a percentage of the Plant and Machinery cost up to cut-off date, 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%*

*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.*

94. The COD of the generating station is 4.4.2020 and accordingly the cut-off date of the generating station is 30.4.2023. The Petitioner in Form-B, has submitted that the value of initial spares included in the capital cost claimed as on COD of Unit-I, is Rs.11114.82 lakh on accrual basis, and Rs.6500.63 lakh on cash basis, and the value of initial spares, included in the said capital cost as on COD of Unit-II is Rs.12826.84 lakh on accrual basis and Rs.7586.99 lakh on cash basis. Considering the Plant & Machinery cost, as submitted by the Petitioner in Form-B, the initial spares claimed upto COD of Unit-II, is within the allowable ceiling norm of 4% and is accordingly allowed. Further, the Petitioner has also claimed initial spares of Rs.8547.00 lakh as projected additional capital expenditure for the period from COD of Unit-II to 31.3.2023, and the same is disallowed for the present being projections, and shall be considered at the time of truing up of tariff, based on actuals.

### **Liquidated Damages**

95. The Petitioner has not furnished the details of liquidated damages recovered from the contractors. Accordingly, the Petitioner is directed to submit the details of Liquidated damages, if any, recovered/recoverable for the generating station at the time of truing up of tariff.



### **Additional Capital Expenditure for the period from COD of Unit-II to 31.3.2024**

96. The Petitioner has claimed additional capital expenditure of Rs.175636.52 lakh (Rs.46349.08 lakh for the period from COD of Unit-II to 31.3.2021, Rs.85769.69 lakh for the year 2021-22, Rs.43517.75 lakh for the year 2022-23) for the period from the COD of Unit-II to 31.3.2024 on cash basis.

97. The Petitioner has claimed projected additional capital expenditure under Regulation 24 of the 2019 Tariff Regulations i.e., the works within original scope of work. It is observed that the Petitioner has also claimed additional capital expenditure of Rs.600.00 lakh towards ClO<sub>2</sub> package under original scope of work in 2021-22. It is further noticed that the Commission in various orders has disallowed the expenditure towards ClO<sub>2</sub> package in the absence of the necessary documentation. In view of the above, the claim of the Petitioner towards ClO<sub>2</sub> package is disallowed. However, the Petitioner may approach the Commission at the time of truing up of tariff, along with necessary documents to substantiate its claim that the package was under original scope of work. Accordingly, additional capital expenditure of Rs.46349.08 lakh for the period from COD of Unit-II to 31.3.2021, Rs.85169.69 lakh for the year 2021-22, Rs.43517.75 lakh for the year 2022-23 is allowed.

### **Capital cost allowed for the period 2019-24**

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

	<i>(Rs. in lakh)</i>					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Opening capital cost	590610.27	607297.54	907846.56	954195.64	1039365.33	1082883.08
Add: Additional capital expenditure	16687.27	23.67	46349.08	85169.69	43517.75	0.00
<b>Closing capital cost</b>	<b>607297.54</b>	<b>607321.21</b>	<b>954195.64</b>	<b>1039365.33</b>	<b>1082883.08</b>	<b>1082883.08</b>
Average capital cost	598953.91	607309.38	931021.10	996780.49	1061124.21	1082883.08



## **Debt Equity Ratio**

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

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

*Provided that:*

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

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

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

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

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

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

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

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

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

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



100. As the Petitioner has claimed tariff considering the debt-equity ratio of 70:30, in terms of the above regulation, the same is allowed.

### **Return on Equity**

101. 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.*

102. 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.

<sup>(1)</sup> (2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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:

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

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

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

<sup>(b)</sup> (b) Estimated Advance Tax for the year on above is Rs. 240 crore;

<sup>(c)</sup> (c) Effective Tax Rate for the year 2019-20 = Rs. 240 crore / Rs. 1000 crore = 24%;

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

(3) The generating company or the transmission licensee as the case may be shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty if any arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up shall be recovered or refunded to beneficiaries or the long term customers as the case may be on year to year basis."

103. The Petitioner has claimed Return on Equity (ROE) considering base rate of 15.50% and effective tax rate of 17.472% for the period 2019-24. The same has been considered for the purpose of tariff. Accordingly, ROE has been worked out as under:

#### **Return on Equity at Normal Rate**

	(Rs. in lakh)					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Normative Equity - Opening	177183.08	182189.26	272353.97	286258.69	311809.60	324864.92
Add: Addition of Equity due to additional capital expenditure	5006.18	7.10	13904.72	25550.91	13055.33	0.00



Normative Equity - Closing	182189.26	182196.36	286258.69	311809.60	324864.92	324864.92
Average Normative Equity	179686.17	182192.81	279306.33	299034.15	318337.26	324864.92
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the respective year/period	17.472%	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax)	18.782%	18.782%	18.782%	18.782%	18.782%	18.782%
<b>Return on Equity (Pre-tax) - (annualised)</b>	<b>33748.66</b>	<b>34219.45</b>	<b>52459.32</b>	<b>56164.59</b>	<b>59790.10</b>	<b>61016.13</b>

### Interest on loan

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

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

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

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

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

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

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

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

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

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

105. The Petitioner has claimed tariff considering the weighted average rate of interest (WAROI) of 5.3462% for the period from COD of Unit-I to 31.3.2020, 5.2551% for the period from 1.4.2020 to COD of Unit-II, 5.3098% for the period from COD of





Unit-II to 31.3.2021, 5.3875% in 2021-22, 5.2900% in 2022-23 and 5.0824% in 2023-24, and the same has been allowed.

106. Necessary calculation of Interest on loan is as under:

- i) The gross normative loan corresponding to admissible capital cost works out to Rs.413427.19 lakh as on COD of Unit-I and Rs.635492.59 lakh as on COD of Unit-II.
- ii) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- iii) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2019-24.

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

		<i>(Rs. in lakh)</i>					
		2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
A	Gross opening loan	413427.19	425108.28	635492.59	667936.95	727555.73	758018.16
B	Cumulative repayment of loan upto previous year	0.00	4929.10	5179.67	51809.80	102147.22	155733.99
C	Net Loan Opening (A-B)	413427.19	420179.19	630312.92	616127.15	625408.52	602284.17
D	Addition due to additional capital expenditure	11681.09	16.57	32444.36	59618.78	30462.43	0.00
E	Repayment of loan during the year/period	4929.10	250.58	46630.13	50337.41	53586.77	54685.60
F	Net Loan Closing (C+D-E)	420179.19	419945.17	616127.15	625408.52	602284.17	547598.57
G	Average Loan [(C+F)/2]	416803.19	420062.18	623220.03	620767.83	613846.34	574941.37
H	WAROI	5.3462%	5.2551%	5.3098%	5.3875%	5.2900%	5.0824
I	<b>Interest on Loan (G x H)</b>	<b>22283.17</b>	<b>22074.88</b>	<b>33091.48</b>	<b>33444.17</b>	<b>32472.22</b>	<b>29220.57</b>

### Depreciation

108. 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."*





109. The Petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 5.02% for the period of COD of Unit-I to COD of Unit-II and 5.05% for the period from COD of Unit-II to 2023-24. The Petitioner has considered value of freehold land amounting to Rs.5483.34 lakh on cash basis for the period from COD of Unit-I to COD of Unit-II and Rs.5587.28 lakh on cash basis, for the period from COD of Unit-II to 31.3.2024, for the purpose of computing depreciable value, and the same has been considered. The Petitioner has also stated that the value of IT equipment and software for the purpose of working out the depreciable value shall be provided at the time of truing up, and accordingly 'nil' value has been considered. The WAROD as claimed by the Petitioner is considered. Accordingly, depreciation allowed for the generating station is as under:

(Rs. in lakh)

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Average capital cost (A)	598953.91	607309.38	931021.10	996780.49	1061124.21	1082883.08
Value of freehold land included above (B)	5483.34	5483.34	5587.28	5587.28	5587.28	5587.28
Aggregated depreciable Value [C = (A-B) x 90%]	534123.51	541643.43	832890.44	892073.89	949983.24	969566.22
Remaining Aggregate Depreciable value at the beginning of the year (D = C – 'J' of previous year)	534123.51	536714.34	827710.77	840264.09	847836.02	813832.23
Balance useful life at the beginning of the year (E)	25.00	24.91	24.91	23.91	22.91	21.91
Weighted average rate of depreciation (F)	5.02%	5.02%	5.05%	5.05%	5.05%	5.05%
Depreciation for the year/ period (G = A x F x No. of days during the period / No. of days during the year)	4929.10	250.58	46630.13	50337.41	53586.77	54685.60
<b>Depreciation during the year ( H = A x F ) (Annualized)</b>	<b>30067.49</b>	<b>30486.93</b>	<b>47016.57</b>	<b>50337.41</b>	<b>53586.77</b>	<b>54685.60</b>
Cumulative depreciation at the end of the year (I = G + 'I' of previous year/period)	4929.10	5179.67	51809.80	102147.22	155733.99	210419.58



## Operation & Maintenance Expenses

110. Regulation 35(1)(1) of the 2019 Tariff Regulations provides for the following O&M expenses:

Year	660 MW (lakh/ MW)
2019-20	20.26
2020-21	20.97
2021-22	21.71
2022-23	22.47
2023-24	23.26

111. The O&M expenses claimed by the Petitioner is as under:

	<i>(Rs. in lakh)</i>					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	13371.60	13840.20	27680.40	28657.20	29660.40	30703.20
O&M expenses ECS (FGD)	-	-	-	-	785.41	1208.32
- Water Charges	992.71	992.71	1980.00	1980.00	1980.00	1980.00
- Security Expenses	346.30	346.30	1476.00	1527.66	1581.13	1636.47
- Capital Spares consumed	0.00	0.00	0.00	0.00	0.00	-
<b>Total O&amp;M Expenses</b>	<b>14710.61</b>	<b>15179.21</b>	<b>31136.40</b>	<b>32164.86</b>	<b>34006.94</b>	<b>35527.99</b>

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

## O&M Expenses for FGD

113. The Petitioner has claimed O&M expenses on account of implementation of FGD amounting to Rs.785.41 lakh in 2022-23 and Rs.1208.32 lakh in 2023-24, as 2% of the capital cost of FGD. It is observed that the implementation of FGD is tentative and the Petitioner has not yet implemented the same. Accordingly, the O&M expenses of FGD are disallowed at this juncture. The Petitioner is permitted to claim the O&M



expenses towards FGD on the basis of actual cost of FGD package, at the time of truing up of tariff and the same will be considered in accordance with law.

### **Water Charges**

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

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

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

115. In terms of the above Regulation, the 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 in the amended Petition has furnished the water charges to be allowed in tariff on actual basis for the period from COD of Unit-I to 31.3.2020 and projections from 2020-21 to 2023-24. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges furnished by the Petitioner are as under:

Type of Plant	Coal
Type of cooling water system	Closed Circuit Cooling System
Allocation of Water for Khargone STPS	40 MCM/year
Rate of Water charges	Rs.5.5 per Cubic meter
Total Yearly Water Charges as per allocation	Rs. 1980 lakh (for both the Units under commercial operation)

116. The Petitioner in the Form-3A in the amended Petition has claimed water charges as under:

<i>(Rs. in lakh)</i>					
2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
992.71	992.71	1980.00	1980.00	1980.00	1980.00



117. We have examined the matter. The Petitioner has claimed water charges for 2019-20 and 2020-21 on the basis of actual expenditure. The water charges for the period 2021-24 have been arrived on the basis of actual water charges for the period from COD of Unit-I to 31.3.2020. The Petitioner has further submitted that as per agreement the minimum amount payable for water charges is 90% of the contracted capacity. The contracted capacity for the plant is 40 MCM. However, it has been observed that the contracted capacity is above the normative consumption of 3.5 cum/ MWh. Accordingly, for the purpose of calculation of water charges, the water consumption has been restricted to 3.5 cum/ MWh. Therefore, the water charges allowed based on the prescribed ceiling limit of water consumption, for the period 2019-24 is as under:

	<i>(Rs. in lakh)</i>					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Water charges claimed	992.71	992.71	1980.00	1980.00	1980.00	1980.00
<b>Water Charges allowed</b>	<b>992.71</b>	<b>992.71</b>	<b>1884.25</b>	<b>1892.03</b>	<b>1892.03</b>	<b>1892.03</b>

### **Capital Spares**

118. The Petitioner has not claimed capital spares during the period 2019-24 but has submitted that the same shall be claimed based on actual consumption of spares, at the time of truing up in terms of 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.

### **Security Expenses**

119. The security expenses claimed by the Petitioner for the period 2019-24 is as under:



*(Rs. in lakh)*

2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
346.30	346.30	1476.00	1527.66	1581.13	1636.47

120. The Petitioner has submitted that above expenses has been claimed based on the estimated expenses for the period 2019-24 and shall be subject to retrospective adjustment based on actuals at the time of truing up of tariff. We have examined the matter. The Petitioner has not furnished the assessment of security requirement as required under the provisions of the 2019 Tariff Regulations. Accordingly, the Petitioner is directed to furnish the requisite details for carrying out the prudence check of security expenses at the time of truing up of tariff. However, the projected security expenses for the period 2019-24 as claimed by the Petitioner as above, is allowed for the purpose of tariff.

121. Accordingly, the total O&M expenses including water charges and security expenses, as claimed by the Petitioner and allowed to the generating station for the period 2019-24 is as under:

*(Rs. in lakh)*

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	13371.60	13840.20	27680.40	28657.20	29660.40	30703.20
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	13371.60	13840.20	27680.40	28657.20	29660.40	30703.20
O&M Expenses for FGD Claimed	0.00	0.00	0.00	0.00	785.41	1208.32
O&M Expenses for FGD <b>Allowed</b>	0.00	0.00	0.00	0.00	0.00	0.00
Water Charges claimed under Regulation 35(1)(6)	992.71	992.71	1980.00	1980.00	1980.00	1980.00



of the 2019 Tariff Regulations (c)						
Water Charges <b>allowed</b> under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)	992.71	992.71	1884.25	1892.03	1892.03	1892.03
Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)	346.30	346.30	1476.00	1527.66	1581.13	1636.47
Security Expenses <b>allowed</b> under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)	346.30	346.30	1476.00	1527.66	1581.13	1636.47
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)	14710.61	15179.21	31136.40	32164.86	34006.94	35527.99
<b>Total O&amp;M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)</b>	<b>14710.61</b>	<b>15179.21</b>	<b>31040.65</b>	<b>32076.89</b>	<b>33133.56</b>	<b>34231.70</b>

### Operational Norms

122. The Petitioner has considered following norms of operation, for the purpose of tariff, for the period 2019-24:

Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kCal/kwh)	2173.50
Auxiliary Power Consumption (%)	8.00
Specific Oil Consumption (ml/kwh)	6.25%

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

123. 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.”

124. As the Petitioner has considered Normative Annual Plant Availability Factor of 85% during the period 2019-24 In terms of the above Regulation, the same is allowed.

#### **(b) Gross Station Heat Rate (kCal/kWh)**

125. 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:

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

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

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.”*

126. The Petitioner has considered the Gross Station Heat Rate (GSHR) of 2173.50 kCal/kWh, based on design heat rate guaranteed by the 2070 Kcal/kWh and operating margin of 5%. As the Petitioner has considered Gross Station Heat Rate (GSHR) of 2173.50 kCal/kWh during the period 2019-24. In terms of the above Regulation, the same is allowed. However, the Petitioner is directed to submit the OEM documents related to boiler efficiency and turbine cycle heat rate, at the time of truing up of tariff.

**(c) Specific Oil Consumption**

127. 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”*

128. As the Petitioner has considered secondary fuel oil consumption of 0.50 ml/kWh during the period 2019-24, In terms of the above Regulation, the same is allowed.

**(d) Auxiliary Power Consumption**

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

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

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

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

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





<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.”*

130. In terms of the above Regulations, the Petitioner has considered auxiliary energy consumption of 6.25% during the period from COD of Unit-I to 31.3.2022 and 7.25% for 2022-23 and 2023-24. The Petitioner has also considered an additional auxiliary consumption of 1% on account of FGD in 2022-23 and 2023-24. Since, the FGD implementation schedule is tentative, the additional auxiliary consumption claimed has not been considered at this stage. The Petitioner is permitted to claim the normative auxiliary consumption on account of FGD implementation as and when the same is actually installed. Accordingly, an auxiliary consumption of 6.25% is allowed for the period 2019-24.

### **Interest on Working Capital**

131. Sub-section (a) of clause (1) 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) ~~xxxxxx~~

(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**

132. Regulation 34(2) of the 2019 Tariff Regulations provides that the computation of 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.

133. 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:

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

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

**(b) For gas and liquid fuel-based stations:**

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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



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

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

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

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

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

LC = Normative limestone consumption in kg per kWh;

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

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

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

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

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

134. 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 (after reducing the same by 85 kCal/kWh in terms of above quoted Regulation) procured for the three months of November 2019, December 2019 and January 2020 for Unit-I. and for the month of January 2020, February 2020 and March 2020 for the COD of Unit-II.

(c) Price and GCV of secondary fuel oil for the three months of November 2019, December 2019 and January 2020 for Unit-I. and for the month of January 2020, February 2020 and March 2020 for the COD of Unit-II.

135. Accordingly, the Petitioner has claimed ECR of Rs.2.992 per kWh for the period from COD of Unit-I to COD of Unit-II and Rs.3.041 for the Period from COD of Unit-II to 31.3.2024:

	<i>(Rs. in lakh)</i>					
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Cost of coal for 50 days	18714.04	18714.04	38051.96	38051.96	38051.96	38051.96
Cost of secondary fuel oil for 2 months	203.97	203.41	398.98	398.98	398.98	400.08



136. On perusal of the Form-15 furnished by the Petitioner vide its affidavit dated 29.6.2021, it is observed that the Petitioner has included opening stock of coal and its corresponding value while computing weighted average price of coal for the three months of prior to each COD. However, in terms of Regulation 34(2) of the 2019 Tariff Regulations, the computation of cost of fuel as part of IWC, is to be based on the landed price and GCV of fuel as per actuals, which means that only fuel received during these three months, is to be considered, and no opening stock, shall be included therein. Accordingly, the opening stock of coal, and its corresponding values have been excluded, while computing the weighted average price and GCV of coal. For the present, the weighted average price and GCV of oil as furnished by the Petitioner has been considered and the Petitioner is directed to furnish Form-15, in respect of both coal and secondary fuel oil, only based on fuels received during the respective years of the period 2019-24, at the time of truing up of tariff. Accordingly, the weighted average price and GCV of coal and oil claimed and allowed for the period 2019-24, is as under:

	For the period from COD of Unit 1 to COD of Unit-II	
	Claimed	Allowed
Weighted average price of coal (Rs. /MT)	5087.97	4914.14
Weighted average GCV of coal (kCal/kg) *	3968.26	4037.25
Weighted average price of oil (Rs. /KL)	49665.69	49295.27
Weighted average GCV of oil (kCal/Ltr.)	10820.00	10810.55

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

	For the period from COD of Unit-II to 31.3.2024	
	Claimed	Allowed
Weighted average price of coal (Rs. /MT)	5112.00	5176.97
Weighted average GCV of coal (kCal/kg) *	3921.61	3910.29
Weighted average price of oil (Rs. /KL)	48706.18	49359.27
Weighted average GCV of oil (kCal/Ltr.)	10820.00	10820.00

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



137. Accordingly, the fuel component in working capital, Energy charges and ECR claimed and allowed for the period 2019-24, is as under:

(Rs. in lakh)

	Claimed		Allowed	
	For the period from COD of Unit-I to 31.3.2020	For the period from 1.4.2020 to COD of Unit-II	For the period from COD of Unit-I to 31.3.2020	For the period from 1.4.2020 to COD of Unit-II
Cost of coal for 50 days (generation corresponding to NAPAF)	18714.04	18714.04	17765.76	17765.76
Cost of secondary fuel oil for 2 months	203.97	203.41	202.43	201.88
ECR *	2.992	2.992	2.841	2.841

\* Rs./kWh

(Rs. in lakh)

	Claimed		Allowed	
	For the period from COD of Unit-II to 31.3.2023	For FY 2023-24	For the period from COD of Unit-II to 31.3.2023	For FY 2023-24
Cost of coal for 50 days (generation corresponding to NAPAF)	38051.96	38051.96	38647.15	38647.15
Cost of secondary fuel oil for 2 months	398.98	400.08	404.28	405.39
ECR *	# 3.041	# 3.041	3.088	3.088

\* Rs./kWh; # Wrongly stated in Form-1 as Rs.3.104/kWh instead of Rs.3.041/kWh for the period 2022-24

138. Further in line with the decision on O&M and auxiliary consumption for FGD implementation, as above, the working capital on account of FGD related components has also not been considered in this order.

139. The Petitioner, on a month-to-month basis, shall compute and claim the energy charges from the beneficiaries based on formulae given under Regulation 43 of the 2019 Tariff Regulations.

### **Working Capital for Maintenance Spares**

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



*(Rs. in lakh)*

2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
2942.12	3035.84	6227.28	6432.97	6801.39	7105.60

141. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses (including water charges and security expenses). Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and security expenses) allowed for the period 2019-24, is as under:

*(Rs. in lakh)*

2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
2942.12	3035.84	6208.13	6415.38	6626.71	6846.34

### **Working Capital for Receivables**

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

*(Rs. in lakh)*

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Variable Charges - for 45 days	16137.24	16137.24	35080.45	35080.45	35080.45	35080.45
Fixed Charges - for 45 days	13156.63	13287.45	21620.91	22577.90	23451.11	23612.37
<b>Total</b>	<b>29293.86</b>	<b>29424.68</b>	<b>56701.36</b>	<b>57658.36</b>	<b>58531.57</b>	<b>58692.83</b>

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

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

*(Rs. in lakh)*

2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
1225.88	1264.93	2594.70	2680.41	2833.91	2960.67



144. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provide for O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses). Accordingly, O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses) allowed for the period 2019-24, is as under:

<i>(Rs. in lakh)</i>					
2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
1225.88	1264.93	2586.72	2673.07	2761.13	2852.64

### **Rate of Interest on Working Capital**

145. 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 the year 2019-20, 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for the year 2020-21, 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 1.4.2021/1.4.2022 + 350 bps) for the period 2021-23 and 12.00% (i.e. 1 year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for the financial year 2023-24.

Accordingly, Interest on working capital has been computed as under:

<i>(Rs. in lakh)</i>						
	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Working Capital for Cost of Coal towards Stock - (20 days generation corresponding to NAPAF) (A)	7106.31	7106.31	15458.86	15458.86	15458.86	15458.86
Working Capital for Cost of Coal towards Generation – (30 days generation corresponding to NAPAF) (B)	10659.46	10659.46	23188.29	23188.29	23188.29	23188.29
Working Capital for Cost of Secondary fuel oil - (2 months generation corresponding to NAPAF) (C)	202.43	201.88	404.28	404.28	404.28	405.39
Working Capital for Maintenance Spares @ 20% of O&M expenses (D)	2942.12	3035.84	6208.13	6415.38	6626.71	6846.34





Working Capital for Receivables – (45 days of sale of electricity at NAPAF (E))	29293.86	29424.68	56701.36	57658.36	58531.57	58692.83
Working Capital for O&M expenses - 1 month (F)	1225.88	1264.93	2586.72	2673.07	2761.13	2852.64
<b>Total Working Capital (G = A+B+C+D+E+F)</b>	<b>51430.07</b>	<b>51693.10</b>	<b>104547.65</b>	<b>105798.24</b>	<b>106970.84</b>	<b>107444.35</b>
Rate of Interest (H)	12.05%	11.25%	11.25%	10.50%	10.50%	12.00%
<b>Interest on Working Capital (I = G x H)</b>	<b>6197.32</b>	<b>5815.47</b>	<b>11761.61</b>	<b>11108.82</b>	<b>11231.94</b>	<b>12893.32</b>

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

146. Accordingly, the annual fixed charges allowed for the generating station for the period 2019-24, is summarized as under:

*(Rs. in lakh)*

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Depreciation	30067.49	30486.93	47016.57	50337.41	53586.77	54685.60
Interest on Loan	22283.17	22074.88	33091.48	33444.17	32472.22	29220.57
Return on Equity	33748.66	34219.45	52459.32	56164.59	59790.10	61016.13
Interest on Working Capital	6197.32	5815.47	11761.61	11108.82	11231.94	12893.32
O&M Expenses	14710.61	15179.21	31040.65	32076.89	33133.56	34231.70
<b>Total</b>	<b>107007.25</b>	<b>107775.95</b>	<b>175369.62</b>	<b>183131.88</b>	<b>190214.60</b>	<b>192047.31</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.*

147. The pro-rata fixed charges shall be calculated using the bases as shown under:

	2019-20 (1.2.2020 to 31.3.2020)	2020-21 (1.4.2020 to 3.4.2020)	2020-21 (4.4.2020 to 31.3.2021)	2021-22	2022-23	2023-24
Number of days in year	366	365	365	365	365	366
Number of days for which tariff is to be calculated	60	3	362	365	365	366

148. The annual fixed charges approved as above, are subject to truing up of tariff in terms of Regulation 13 of the 2019 Tariff Regulations.

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

149. The Petitioner has sought reimbursement of fee paid by it for filing the petition for the period 2019-24 and for publication expenses. The Petitioner shall be entitled





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

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

151. Petition No. 402/GT/2019 is disposed of in terms of the above.

**Sd/-**  
**(Pravas Kumar Singh)**  
**Member**

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

**Sd/-**  
**(I.S. Jha)**  
**Member**

