

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 219/GT/2019

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Ramesh Babu V., Member**

Date of Order: 2nd August, 2024

In the matter of:

Petition for determination of tariff in respect of Neyveli New Thermal Power Station (1000 MW) for the period from COD of Unit-I (28.12.2019) to 31.3.2024.

And

In the matter of:

NLC India Limited,
135/73, EVR Periyar High Road,
Kilpauk, Chennai -600010

.... Petitioner

Vs

1. Tamil Nadu Generation and Distribution Corporation Limited,
NPKRR Maaligai, 144, Anna Salai, Chennai – 600002
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha, Gunadala, Eluru Road,
Vijayawada, Andhra Pradesh-520 004.
3. Southern Power Distribution Company of Andhra Pradesh Limited,
D. No:19-13-65/A, Srinivasapuram,
Tiruchanoor Road, Tirupathi (Andhra Pradesh)-517501.
4. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seetammadhara, Vishakapatnam (Andhra Pradesh)-503013.
5. Transmission Corporation of Telangana Limited,
Vidyut Soudha, Khairatabad, Hyderabad-500082
6. Northern Power Distribution Company of Telangana Limited,
H. No. 1-1-504, Opp. NIT petrol pump, Chaityanayapuri colony,
Hanmconda, Warangal (Telangana) – 506004
7. Southern Power Distribution Company of Telangana Limited,
2nd Floor, H. No. 6-1-50, Mint Compound, Hyderabad – 500063



8. Power Company of Karnataka Limited,
KPTCL complex, Kaveri Bhawan, Bangalore – 560009
9. Bangalore Electricity Supply Company Limited,
Krishna Rajendra Circle, Bangalore – 560 001
10. Mangalore Electricity Supply Company Limited,
Paradigm Plaza, A.B. Shetty Circle, Mangalore – 575 001
11. Chamundeshwari Electricity Supply Company Limited,
Corporate Office No 927, L.J. Avenue, New Kantharaj Urs Road
Saraswathipuram, Mysore -570 009
12. Gulbarga Electricity Supply Company Limited,
Station Road, Kalaburagi, Karnataka 585102
13. Hubli Electricity Supply Company Limited,
Corporate office, P. B. Road, Navanagar,
Hubli - 580 025
14. Kerala State Electricity Board Limited,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram – 695 004
15. Puducherry Electricity Department,
137, NSC Bose Salai,
Puducherry – 605 001

.... Respondents

Parties Present:

Ms. Surbhi Kapoor, Advocate, NLCIL
Shri A. Srinivasan, NLCIL
Shri Vinay Sobti, NLCIL
Ms. Akansha, NLCIL
Shri S. Vallinayagam, Advocate, TANGEDCO
Shri Darpan K.M, Advocate, PCKL
Ms. Amrita Sharma, Advocate, PCKL
Shri Rajat Jonathan Shaw, Advocate, PCKL

ORDER

This Petition has been filed by the Petitioner, NLC India Limited (NLCIL), for approval of tariff of Neyveli New Thermal Power Station (2x500 MW) (hereinafter referred to as 'the Project/ generating station / NNTPS') based on the anticipated COD of Unit-I (July 2019) and Unit-II (December 2019) till 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”). The generating station, located in the Cuddalore district of the State of Tamil Nadu, comprises two Units of 500 MW each. The Ministry of Power, GOI, *vide* its letter dated 28.5.2011 and amended PPA agreement dated 5.3.2014 had allocated the power from the generating station to the Respondent beneficiaries as under:

S. N.	Name of States/UT	Allocation of Power MW	% Allocation
1	Andhra Pradesh	113.77	11.4%
2	Karnataka	70.54	7.1%
3	Kerala	32.38	3.2%
4	Tamil Nadu	653.07	65.3%
5	NLC, Neyveli	66.000	6.6%
6	Puducherry	4.24	0.4%
7	Unallocated Power	60.00	6.0%
	Total	1000.00	100.0%

2. The Investment Approval (IA) of the project was accorded by the Central Government on 9.6.2011 for two units of 500 MW each, at a cost of Rs. 590711 lakhs (October 2010 base price level), including IDC of Rs. 55903 lakhs with an FE component of 217.009 million US \$ (1 US\$= Rs. 44.69). The Petitioner has entered into a Power Purchase Agreement (PPA) with the Respondents herein, for the supply of power generated from the project in terms of the allocation made by the MOP, GOI on 28.5.2011.

3. The Petitioner had filed Petition No. 323/GT/2018 for the determination of the tariff of the generating station based on the anticipated COD of Unit-I (October 2018) and Unit-II (December 2018). However, based on the submissions of the Petitioner that the Units were expected to achieve COD during the period 2019-20, the said Petition was disposed of *vide* order dated 23.5.2019, with liberty to the Petitioner to approach the Commission with a fresh Petition, after the COD of the units, in terms of the provisions of the 2019 Tariff Regulations. Thereafter, in Petition No.219/GT/2019 (this petition) filed by the Petitioner, the Commission *vide* interim order dated 29.1.2020, granted interim tariff for a



period of two years i.e., 2019-20 and 2020-21, considering 85% of the audited capital cost as on the anticipated COD of Unit I (30.9.2019) and Unit-II (30.12.2019), pending the determination of the final tariff of the generating station based on the actual COD of the units till 31.3.2024. Accordingly, the capital cost and the annual fixed charges granted vide the interim order dated 29.1.2020 are as under:

Capital Cost allowed

	<i>(Rs. In lakh)</i>	
	Unit-I as on anticipated COD (30.9.2019)	Unit- II (Station) as on anticipated COD (31.12.2019)
Capital cost excluding IDC	256409.48	560450.92
IDC, FC, FERV & Hedging cost	50995.07	108075.74
Capital cost including IDC, FC, FERV & Hedging cost	307404.55	668526.66
85% of audited capital cost	261293.87 (307404.55 x 0.85)	568247.66 (668526.66 x 0.85)
Capital cost considered for interim tariff	261293.87	568247.66

Annual Fixed Charges allowed

	<i>(Rs. In lakh)</i>		
	2019-20		2020-21
	Unit-I	Units-I and II	
Return on Equity	15487.93	33682.31	33682.31
Interest on Loan	15305.42	32140.73	29650.90
Depreciation	13216.24	28679.46	28679.46
Interest on Working Capital	4708.90	8056.09	9553.51
O&M Expenses	11801.79	23603.57	24393.57
Total fixed Charges (annualized)	60520.29	126162.17	125959.75

4. Pursuant to the declaration of COD of the Unit-I on 28.12.2019 and Unit-II / station on 10.2.2021, the Commission during the hearing of the Petition on 17.3.2021, directed the Petitioner vide order dated 26.3.2021, to amend the Petition taking into consideration the actual COD of the units and for the parties to complete their pleadings. Also, the Commission vide the said order, directed that the interim tariff granted vide order dated 29.1.2020, as above, shall remain applicable till the determination of the final tariff of the generating station. In compliance with the said order, the Petitioner has filed the amended Petition for the determination of tariff of the generating station, based on the actual COD



of the units, in accordance with the provisions of the 2019 Tariff Regulations.

5. Accordingly, the capital cost and the annual fixed charges claimed by the Petitioner from the actual COD of Unit-I (28.12.2019) and Unit-II (10.2.2021) till 31.3.2024, are as under:

Capital Cost claimed

		<i>(Rs. in lakh)</i>					
		2019-20 (Unit I)	2020-21 (Unit I)	2020-21 (Station)	2021-22	2022-23	2023-24
Opening Capital Cost		318549.05	324427.47	678384.96	680898.18	746246.49	783826.07
Add: Addition during the year/period		5878.42	12953.88	2513.22	65348.31	37579.59	19099.50
Closing Capital Cost		324427.47	337381.34	680898.18	746246.49	783826.07	802925.57

Annual Fixed Charges claimed

		<i>(Rs. in lakh)</i>					
		2019-20 (Unit I)	2020-21 (Unit I)	2020-21 (Station)	2021-22	2022-23	2023-24
Depreciation		16364.83	16551.47	34497.78	36409.94	39077.66	40557.90
Interest on Loan		18565.67	16506.86	34090.55	30928.97	30812.89	29463.74
Return on Equity		18114.58	18645.14	38295.08	40206.95	43106.73	44703.55
Interest on Working Capital		3681.91	3693.39	6941.59	6995.13	7117.36	7183.15
O&M Expenses		12020.88	12603.41	24658.91	25612.12	26594.22	27609.63
Total		68747.87	68000.27	138483.93	140153.09	146708.86	149517.96

6. The Respondents TANGEDCO, PCKL, and KSEBL have filed their replies *vide* affidavits dated 24.9.2019, 29.11.2019, 12.2.2020, 30.6.2021, 9.7.2021, 27.5.2022, 13.6.2022, 2.8.2022 and 7.3.2024 respectively. The Petitioner has filed its rejoinders to the above replies *vide* affidavits dated 30.6.2021 (KSEBL), 18.8.2021 (KSEBL), 18.8.2021 / 20.6.2022 (TANGEDCO), 30.6.2022 (PCKL) and 7.3.2024 (TANGEDCO and PCKL). The Petition was heard on 12.9.2019, 19.5.2022, 10.8.2022, 20.9.2022, 6.2.2024 and 29.5.2024. The Commission after hearing the parties, reserved its order in the Petition on 20.9.2022, after directing the Petitioner to submit certain additional information. However, since the order in the Petition could not be issued prior to one



Member of this Commission, who heard the matter, demitting office, this Petition was relisted and heard on 6.2.2024 and later on 29.5.2024. The Petitioner, in compliance to the directions of this Commission, has furnished the additional information *vide* affidavits dated 9.9.2019, 24.9.2019, 14.11.2019, 20.10.2021, 1.4.2022, 6.6.2022, 17.10.2022, 29.2.2024 and 13.3.2024 after serving copy on the Respondents. Based on the submissions of the parties and the documents available on record, we proceed with the determination of tariff of the generating station for period from the actual COD of the Units till 31.3.2024, as stated in the subsequent paragraphs.

Commissioning Schedule

7. As stated, the IA for the project was accorded by the Central Government on 9.6.2011, and accordingly, the Petitioner has considered 9.6.2011 as the 'Zero Date'. The Petitioner has also considered the Scheduled Commercial Operation Date (SCOD) of Unit-I as 9.6.2015, and Unit-II as 9.12.2015. However, the actual COD of Unit-I is 28.12.2019, and Unit-II is 10.2.2021, thereby resulting in a delay of 55 months (or 1663 days) for Unit-I and 63 months (or 1890 days) for Unit-II from SCOD as under:

	Scheduled COD	Actual COD	Time Overrun
Unit -I	9.6.2015	28.12.2019	55 months (or 1663 days)
Unit -II	9.12.2015	10.2.2021	63 months (or 1890 days)

Time Overrun

8. The Petitioner, *vide* affidavits dated 27.7.2019 and 22.4.2021, furnished the reasons for the time overrun in the commission of the Project. The Commission, *vide* ROP of the hearings dated 19.5.2022, 20.9.2022, and 6.2.2024, directed the Petitioner to furnish details/additional information with regard to the delay in the COD of Units-I and II and in compliance with the said directions, the Petitioner *vide* affidavits dated 1.4.2022, 6.6.2022, 17.10.2022 and 29.2.2024 submitted that the COD of the units got delayed on



account of the following reasons, which were beyond its control:

(1) Tender Stage delay

(a) NTA Package 1

(2) Technological Surprises

a) Requirement of Steel

b) Boiler Main Steel Structure supply

c) NTA-3 Package-Balance of Plant –Insolvency Issues (max)

(3) Force Majeure

a) November 2015 Rains

b) Disruption due to Monsoon Rainfall (25.11.2019-6.12.2019)

c) Disruption due to Cyclone 'NIVAR' Heavy Rainfall in (22.11.2020- 27.11.2020)

d) Disruption due to cyclonic storm 'Burevi' and Heavy Rainfall in (20.11.2020 - 5.12.2020)

e) Sand Quarry closure March to June 2017

f) GST Implementation

g) Delay due to COVID-19 Pandemic Outbreak (25.3.2020-31.10.2020)

(4) Unit Specific execution Delay (Unit-I)

(a) Boiler Light-up (14.6.2019 to 19.6.2019)

(b) Control & Instrumentation

(c) Boiler Circulation Water Pump First Failure (9.8.2019-29.8.2019)

(d) Breakdown of Submerged Scrapper Conveyor (16.09.2019-24.9.2019)

(e) Boiler Circulation Water Pump Failure (Second Time) (16.10.2019-25.11.2019)

(f) Disruption due to Monsoon Rainfall (25.11.2019-7.12.2019)

(5) Unit Specific execution Delay (Unit-II)

(a) Non-availability of BCP (22.10.2019 - 12.2.2020)

(b) COVID 19 Pandemic Outbreak (25.3.2020-31.10.2020)

(c) Non-availability of permission for drawal of start-up power and injection of infirm power (1.11.2020-24.12.2020)

(d) Disruption due to Cyclone 'NIVAR' Heavy Rainfall in (22.11.2020- 27.11.2020)

(e) Disruption due to cyclonic storm, 'Burevi' and Heavy Rainfall in (20.11.2020- 5.12.2020)

(f) Delay due to Reheater Coil on Induction Pressure Welding (IPW) Joints Failure and its Secondary effects and subsequent failure (28.12.2020-25.1.2021)

9. The provisions of the 2019 Tariff Regulations provide for the prudence check of the capital cost of the existing or new projects (Regulation 20), IDC and IEDC (Regulation 21), and the Controllable and uncontrollable factor for deciding the time overrun, cost escalation, etc., (Regulation 22) as 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 Petitioner, in compliance with the directions of this Commission, has, vide affidavits dated 6.6.2022, 17.10.2022, and 29.2.2024, furnished the PERT chart details



for Units-I and II. The Petitioner has also submitted the chronological details for the delay in the COD of Unit-I *vide* Form-G of the amended Petition. It is observed that the overall delay in the COD of Unit-I and Unit-II is 55 months (or 1663 days) and 63 months (or 1890 days) respectively. Based on the submissions of the parties and the documents available on record, we proceed to examine, on prudence check, the reasons for the time overrun of the project, as stated in the subsequent paragraphs:

A. Tender Stage delay

11. As regards the tender stage delay, the Petitioner has submitted that there have been two stages of Expression of Interest (EOI) and two stages of tendering for the following reasons:

(a) EOI floated for first time in April, 2010 for feasibility study before the approval by GOI. However, it was cancelled as the bidders opined on the uneconomical specification of drum type;

(b) Second EOI was floated in November, 2010 and 5 bidders participated, but for qualifying of the bidders, the annual average turnover was asked to be reduced by all bidders. It was decided to cancel the second EOI and to issue full tender;

(c) M/s Ansaldo and Vitkovice participated in the first tender issued in June, 2011. It was investigated and found that Vitkovice represented documents to prove its qualifying as per criteria of tender, were a misrepresentation of fact and was thus, held disqualified and the first tender eventually became a non-responsive offer, as Ansaldo also took deviations.

(d) After technical deliberations, the second time tender was issued in September, 2012 and in the said tender, the bidders namely Ansaldo, BHEL and Lanco participated. The Lanco's bid was found technically non-responsive and was decided not to open its financial bids. Lanco filed an appeal before the Hon'ble High Court, Madras in August, 2013 and the appeal was dismissed in October 2013. Thereafter, the financial bids were opened and LOA was awarded on 31.10.2013 on the lowest bidder, viz., M/s BHEL.

12. The Petitioner has stated that the issues related to the technical designs and the limited bidders for the award of the contract. The Consultant to the Petitioner, M/s Lahmeyer International (India) Limited, advised the Petitioner for enhanced time schedules considering the technical requirements and the time offered by the bidders, and to avoid further tendering of the project, the Petitioner extended the time for NTA 1



package for Unit I and Unit II as under:

S. N.	Milestone	Completion time (months from the LOA)
1	Design & Engineering	16
2	Hydrotest	32
3	Boiler Light Up	42
4	Trial Operation (provisional take over)	48
5	PG Test (and final take over)	51
6	Unit II	Phase shift by 6 months from above schedule

Submissions of the Respondents

13. Respondent TANGEDCO has submitted the following:

- (a) The reasons furnished by the Petitioner for time overrun are attributable to it and the same may not be accepted. The cost overrun of the project is due to the inefficiencies of the Petitioner, and the Respondent cannot, therefore, be burdened on this count. The Petitioner had not assessed and conducted an in-depth study, which was required for tendering for the new technology and therefore, is the only reason for the delay in finalization of the tender. The Petitioner, being a pioneer in the Power Sector, has miserably failed to go in for a complete and fool proof tendering process, as it was at liberty to appoint any proven consultancy firms before preparation of the specification, in case they felt that there was not enough expertise. The Petitioner was not serious in the timely start of the Project and had opted to go with the flow of the tendering process, has submitted that the delay in the tendering process is attributable to the Petitioner due to inefficiency in implementation of the project and is, therefore, a “controllable factor” in terms of Regulation 22(1) of the 2019 Tariff Regulations and hence the delay for the above said period may not be passed on to the beneficiaries of the Project.
- (b) After the issue of the first full-fledged tender, Petitioner proceeded to engage the Consultant, and based on their proposal, the time frame for completion of the Project was further increased. The petitioner should have done the same before floating the first EOI itself. The time shift resulting in a delay of 6 months is attributable on the part of the generator and is a “controllable factor” as per Regulation 22(1) of the 2019 Tariff Regulations, and therefore, the same should not be included in the capital cost.
- (c) The Petitioner has claimed that the boiler tower weight increased from 48000 MT to 62000 MT. However, the Petitioner has not furnished the necessity and justification for the increase in the boiler tower weight from 48000 MT to 62000 MT. The Petitioner was not diligent while designing the Power Plant and is only trying to include the cost of the excess tonnage in the capital cost. Therefore, the excess



expenditure incurred due to an increase in weight should not be passed on to beneficiaries. The same shall be proportionately reduced from the capital cost. There was a managerial flaw in floating the tender process and the casual approach of the Petitioner, without assessing and conducting the in-depth study, required for tendering for the new technology, is the only reason for the delay in the finalization of the tender.

- (d) With regard to the enhancement of the completion period, the Petitioner should have done the same before floating the first EOI itself, given the fact that they have adopted an unproven technology. This proves that the Petitioner has not taken enough care while planning the project and before tendering. In matter of NTA 1 Package all the above callous and casual approach of the Petitioner, without assessing and conducting in depth study required for tendering for the new technology, is the only reason for delay in the finalization of the tender.
- (e) There is no benchmarking of the project completion time in India, being first of its kind station. Being a Navaratna PSU, the Petitioner is at the advantage of mobilizing the resources available for the project, and therefore, should have made all its best efforts to execute the project within the time line. Instead, the Petitioner is trying to pass on the time delay and the eventual increase in cost to the beneficiaries. Hence the delay in the tendering process is attributable to Petitioner due to inefficiency in the implementation of the project and is a 'controllable factor' as per Regulation 22(1) of the 2019 Tariff Regulations. Therefore, the financial impact of the delay for the above period should not be passed on to the beneficiaries of the Project.

14. Respondent KSEBL has stated the following:

- (a) The reasons for the delay in the award of the contract, cited by the Petitioner, are purely attributable to the Petitioner, due to the lapse or inefficiency on the part of the Petitioner in the incorporation of a competent technical and financial qualifications criteria in the tender documents. If they did not have sufficient expertise in framing such documents, suitable consultants might have been appointed. The Petitioner has failed in proper planning and detailed study, before envisaging the establishment of the said project, which necessitated the Petitioner to extend the completion period.

15. Respondent PCKL has submitted the following:

- (a) It is a well-known practice to take up a project by any utility (that too, by a Govt. entity) a pre-feasibility study, pros & cons, implementation hurdles, risk involved and the way to overcome such hurdles will have to be rigorously studied by itself or through a third-party consultancy well in advance. This is carried out to ensure that the envisaged project sees the light of the day as per schedule. The Petitioner being well aware of all the above facts, should have taken necessary precautions



for carefully planning and executing the project so that, in conceiving of project, there will not be any chance for major slippages from start to completion.

- (b) The Petitioner has stated that it realized the need for a consultant to check the time required for completion of the project after the participant in the bid, M/s. Ansaldo requested for enhancement of the time. After this, the Petitioner has hired the services of a consultant (M/s Lahmeyer International India Limited) to know the time schedule required for completion of the project. Therefore, there was a delay in availing the consultancy services to an extent of nearly one year from the zero date of the project.

Analysis and Decision

16. The submissions have been examined. It is observed that there is a total delay of 875 days corresponding to the Tender stage. While the first EOI was cancelled before the bid opening, the second EOI was subsequently cancelled in order to increase the competition. Further, the first tender, in which two bidders had participated, was cancelled due to the misrepresentation of facts by one of the bidders and due to the non-responsiveness of another bidder. Pursuant to this, the second tender was floated in September 2012, wherein three bidders participated. However, one of the bidders, M/s Lanco approached the Hon'ble High Court as it was disqualified based on the techno-commercial points. Subsequently, the financial bid was opened, and LOA was awarded to M/s BHEL on 31.10.2013. The Petitioner, being a 'Navratna' enterprise of the Government of India, has a proven track record of successfully commissioning significant projects in the past, which includes TPS-II Neyveli (3x210 & 4x210, i.e. 1470 MW), TPS I Expansion (2x210 i.e., 420 MW), TPS-II Expansion (2x250 i.e.500 MW), and Barsingsar Thermal Power Station (2x125 MW). Before the project's approval in June 2011, the Petitioner conducted feasibility studies and detailed assessments. The Petitioner had engaged the technical consultants and attempted to address potential gaps in their understanding even before issuing the first Expression of Interest (EOI).



17. It is observed that the Petitioner has signed a PPA with the Respondent beneficiaries, and clause 3.0 of the PPA dated 26.11.2020 signed with TANGEDCO (similar PPAs signed with all beneficiaries) provides as under:

*“3.0 Commercial Operation of Generating Units
The first unit is expected to achieve Commercial Operation hereinafter referred to as COD in 48 months from GOI sanction and second unit in 54 months from GOI sanction. **The project time schedule is subject to GOI sanction, supply schedule as per the Letter of Intent (LOI) etc.**”*

18. It is clear that the PPA had acknowledged the fact that the variation in the supply schedule as per the LOI could change the project time schedule. The contractor, M/s BHEL, has provided an L1 PERT chart as part of the bid document after a detailed study of technical issues, site constraints, and other market conditions for sourcing of material required for lignite based generating plant, equipment, trained manpower, and risk associated with seasonal rains/floods/cyclones and previous sanctions of sand quarrying by the government in the year 2011.

19. Although the Petitioner has experience in constructing a lignite based generating station ranging from 50 MW to 250 MW, but the present project is a first 500 MW Lignite based power plant in Asia. Upgradation to larger sizes is a continuous process on the part of the manufacturer, project company, and the beneficiaries associated with this technology. We understand the fact that in its continuing improvement, there would be problems during the design, engineering and manufacturing stage and also in stabilization of the lignite-based boiler under Indian conditions with the larger size of 500 MW. To encourage the adoption of such technology, we feel that a pragmatic view needs to be taken by all the stakeholders involved in the power sector as well as the regulatory commission even though the generating company cannot absolve itself from the delay in commissioning of the plant. Any drastic step at this stage in not allowing time overrun at the bidding stage may discourage the prospective developer from adopting the challenges



and new technology. Acknowledging the complexity of such projects and the market conditions, the Petitioner's acceptance of the contractor's proposed timelines demonstrates a pragmatic approach, considering the unpredictable nature of various factors. Accordingly, in view of the above discussions and in terms of Regulation 21 (4) of the 2019 Tariff Regulations, we hold that the Petitioner is not responsible for imprudence in the finalization of tendering processes and the delay of 875 days on account of delay in award of contract cannot be said to be in the control of Petitioner and hence the said delay is condoned. Accordingly, the original scheduled zero date, i.e., June 9, 2011 (as per the IA) shall now be considered as October 31, 2013.

20. The Petitioner is also seeking the condonation of time overrun due to the enhancement of the completion period of 6 months for the NTA1 (boiler island) package, based on the recommendation of its Consultant (M/s Lahmeyer International India Ltd). Considering the fact that these are projects where the contractor is dependent on many subcontractors & suppliers based on the complexity of the project being the first 500MW lignite based thermal generating station. The non-acceptance of the conditions of the bidders for an extended timeline to execute the NTA1 package could have resulted in retendering. However, retendering could not guarantee a reduction in timelines for project completion. Therefore, we are only inclined to allow an extension of 6 months for the execution of the NTA1 (boiler island) package.

B. Delay in execution due to Force Majeure events

(a) Flood and Heavy rains

21. The break-up of the delay, on account of flood and heavy rains, as furnished by the Petitioner is as under:

S. N.	Hindrance	Start	End
1	Flood, heavy rain and inundation	Nov, 2015	December, 2015



S. N.	Hindrance	Start	End
2	Disruption due to Monsoon Rainfall	25.11.2019	6.12.2019
3	Disruption due to cyclonic storm 'Burevi' Heavy Rainfall	20.11.2020	5.12.2020
4	Disruption due to Cyclone 'NIVAR' Heavy Rainfall	22.11.2020	27.11.2020

Submission of the Respondents

22. Respondent TANGEDCO has submitted the following:

- (a) The Petitioner has not furnished the details of works that were under progress and the percentage of works completed during the period November, 2015 and during the subsequent monsoons. Major activities relating to the execution of the project have been done during the year 2017 and therefore, there would not have been a major impact due to the rains in November, 2015 as claimed by the Petitioner. Rains are seasonal in November and December, and the Petitioner is aware of this fact and should have planned the construction schedule accordingly.
- (b) It is the responsibility of the Petitioner to program and carry out works that might be least affected during such monsoon periods. Moreover, the construction period benchmarking includes provision for such seasonal disturbances. The Petitioner should have planned and scheduled the project activities considering the seasonal climatic conditions, and any delay on the ground is attributable to the Petitioner.
- (c) From the data furnished by the Petitioner, the monsoon and seasonal rains have been active only during the months of November and December. Being predictable for the region, the Petitioner should have planned and scheduled the project activities considering the seasonal climatic conditions, and any delay on the ground is only attributable to the Petitioner.

23. Respondent KSEBL has stated that the incidents stated under force majeure are seasonal in nature in Tamil Nadu and the Petitioner should have planned accordingly. With reference to the GST implementation and consequential delay in supply of material, the Respondent has submitted that the Petitioner should seek compensation through LD from the contractor.

24. Respondent PCKL has submitted that the Commission had declined the claim of the Petitioner for condonation of delay owing to reasons of heavy rains, flood, inundation of project site and logistical hindrance and sand quarry closure in its order dated 11.7.2017



in Petition No. 135/GT/2015. Accordingly, the Respondent has submitted that the same principles may be applied by the Commission in the present case.

Analysis and Decision

25. The matter has been examined. It is evident from the submissions that there has been a delay in various activities of the project on account of floods, heavy rains, and cyclone as tabulated below:

S. N.	Hindrance	Start	End	Stage of Project
1.	Flood, heavy rain and inundation	Nov, 2015	December, 2015	Initial Construction
2	Disruption due to Monsoon Rainfall	25.11.2019	6.12.2019	Steam floating activity
3	Disruption due to cyclonic storm 'Burevi' Heavy Rainfall	20.11.2020	5.12.2020	Steam floating activity
4	Disruption due to Cyclone "NIVAR" Heavy Rainfall	22.11.2020	27.11.2020	Steam floating activity-

26. With respect to floods and heavy rain inundation, the Petitioner has not furnished any specific data, but has mentioned that the months of November, 2015 and December, 2015 were the affected period. In addition, the Petitioner has claimed delay due to a force majeure event for 12 days on account of the disruption in activities due to rainfall and 16 days of disruption in activities due to cyclone "BUREVI". The Petitioner has also claimed a delay of 6 days due to disruption in activities that were affected by Cyclone NIVAR. However, this period is subsumed in the delay of 16 days due to cyclone BUREVI. Accordingly, in addition to the delay due to heavy rains and inundation during the initial construction period ranging from November, 2015 to December, 2015, there is an effective delay of 28 days.

27. As stated by the Respondents the rains, floods and cyclones in the month of November and December are seasonal in nature in the area of Tamil Nadu, and the Petitioner should have planned the activities accordingly. It is pertinent to mention that



Regulation (3) (25) of the 2019 Tariff Regulations defines the term 'Force Majeure' as under: -

"3(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 labor disturbances having a nationwide impact in India; or

(d) Delay in obtaining statutory approval for the project except where the delay is attributable to project developer;

28. From the above provisions, 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' for consideration. The project developer is expected to take into account the weather affects while setting the completion schedule. Thus, in terms of Regulation (3) (25) of the 2019 Tariff Regulations, the delay claimed by the Petitioner on account of rain, cannot be condoned. The Petitioner has also not made a case that the rainfall during the affected periods was in excess of the statistical measures for the last hundred years. Considering the fact that the Petitioner has not submitted sufficient data for flood and cyclone and the submitted data is not sufficient for prudence check, we are not able to condone the delay as of now. However, the Petitioner is granted liberty to claim the said delay due to flood and cyclone along with justification at the time of true-up. Consequent upon this, in terms of Regulation 21(5) of the 2019 Tariff Regulations, the increase in cost on account of the said delay has to be borne by the Petitioner, but the Liquidated Damages (LD) and the Insurance proceeds, if any, received by the



generating company, on account of the said delay, could be retained by the generating company.

(b) Ban on Sand Quarry

29. The Petitioner has submitted that while the construction activities were in full swing, the ban on sand quarry by the Government of Tamil Nadu affected the progress of the project activities during the period from March 2017 to July 2017, thereby causing a delay of 4 months in all the construction activities. The Petitioner has also furnished a letter dated 17.3.2017 addressed to the Executive Engineer, PWD, wherein, it had indicated/informed that since the sand quarries are closed/shifted, there has been a scarcity of sand, on account of which the Project has been affected.

Submissions of the Respondents

30. Respondent TANGEDCO has submitted that the LOA was issued to M/s. BHEL on 31.10.2013, and after a lapse of almost 4 years, the Petitioner had furnished the indent for sand to the PWD. This, according to the Respondent, indicates the complete lack of responsibility on the part of the Petitioner in proper planning for sourcing materials on time, matching with the execution of the Project. The Respondent, has also submitted that the Petitioner has not furnished the details of efforts taken by it, for alternate arrangements for the supply of sand. It has also submitted that it is the responsibility of the contractor for the completion of any civil works within the timeline, and the risk of sourcing the supply of materials, is on the part of the Contractor. Accordingly, the Respondent has submitted that the delay of 4 months is not reasonable and is liable to be rejected.

31. Respondent, PCKL has pointed out that the ban on sand quarrying was imposed by the Government of Tamil Nadu in 2011, but the Petitioner has not explained how the



same had affected the project work, which started in 2013. It has further submitted that the Petitioner has not furnished any document to indicate whether it made any attempt to source sand from other areas.

Analysis and Decision

32. The matter has been examined. It is noticed from records that the notice for a ban on sand quarrying was issued by the Government of Tamil Nadu in 2011. However, no documents have been furnished by the Petitioner in support of the same. However, the Petitioner, in the progress report, has only submitted that there was a shortage of sand for the period 17.3.2017 to 13.7.2017 and has furnished a letter dated 17.3.2017 addressed to the Executive Engineer, PWD, indicating that there was a scarcity of sand as sand quarrying is closed. In our view, the responsibility of arranging sand and other alternative materials is the sole responsibility of the Petitioner and the contractor. Even otherwise, we notice that the issue of shortage of sand was raised by the Petitioner during the year 2017, much after 4 years of the start of the project. There is nothing on record to show that the Petitioner has raised this issue prior to the year 2017. Further, the LOA has been issued to M/s. BHEL on 31.10.2013, the Petitioner has not demonstrated how the ban imposed by the State Government in 2011 affected the work during the year 2017. The Petitioner has also neither provided the impact of the slow supply of sand on the Project nor has clarified how the ban imposed by the State Government, hampered the progress of the project. In the absence of the above information, the assessment of the work and activities which had got delayed cannot be assessed. Accordingly, we are of the view that the period of delay on account of the closure of the sand quarry cannot be condoned. Since the delay is attributable to the generating station, the increase in cost on account of the said delay has to be borne by the Petitioner. However, the Liquidated Damages (LD) and Insurance proceeds, if any, received by the generating company on



account of the said delay can be retained by the generating company in terms of Regulation 21(5) of the 2019 Tariff Regulations. We direct accordingly.

(c) GST Implementation

33. The Petitioner has submitted that due to the cost implication on account of the implementation of GST, the vendors had delayed the supplies, requesting appropriate price increase in the contract price. This, according to the Petitioner, had stalled the supply schedule for a period of 3 months and later resumed, after resolving the issues during September 2017 with consequential effect in the fabrication/ erection of the materials.

Submission of the Respondents

34. Respondent TANGEDCO has submitted that the Petitioner has not furnished the details of the orders placed along with correspondences made by the suppliers as regards the GST. It has also submitted that the vitality of the material withheld by the suppliers and the place of the work affected, due to the delayed procurement of the material has not been indicated by the Petitioner. It has also been submitted that the Petitioner, being a Navaratna, is well within its efforts to arrange the materials from alternate sources while recovering LD from the erring contractors. The Respondent, while pointing out that LD has to be recovered from the supplier for the delayed period of supply, has submitted that if the LD has been recovered, the same has to be deducted from the capital cost of the project.

35. Respondent KSEBL has stated that in respect of the issues regarding GST implementation and the consequential delay in the supply of material, the Petitioner should seek compensation through LD from the contractor.

36. Respondent PCKL has submitted that the Petitioner has admitted that the vendors



had delayed the supplies, requesting for an appropriate price increase in the contract price. It has also been submitted that the question of entering into the GST regime would not have arisen if the Petitioner had completed the project within the timeline of June 2015. However, the Respondent has added that the Petitioner lost control of the vendors, as per its own contract terms, to get the supplies in time.

Rejoinder of the Petitioner

37. The Petitioner has clarified that with the notion of 'one nation, one market, one tax', the Government of India had introduced the GST on 1.7.2017 and that the suppliers had stopped their supplies, requesting for a price increase in the contract.

Analysis and Decision

38. The submissions have been considered. The Petitioner has stated that the transition to the GST system resulted in the suppliers stopping the supply of materials seeking an increase in the contract price, thereby resulting in a delay for a period of three months. However, we notice that the letter dated 12.9.2017 (*vide* Annexure VII of the amended Petition) indicates that there has been an issue with the release of payment to the contractors by the Petitioner wherein it was decided by the Management of the Petitioner that payments equivalent to 97% of the invoice amount can be released to the contractors and due care to be taken for approval of revised contracts before releasing of payments. Thus, the issue was purely a contractual matter between the Petitioner and the contractor and the Petitioner could have exhibited reasonable administrative care to issue necessary instructions for the release of payments to contractor/suppliers, well within time after the implementation of the GST. In view of this, the delay of about 3 months on account of GST implementation and the delay in supplies by the contractor is attributable to the Petitioner and hence, not condoned. Therefore, the increase in cost on account of the



said delay is to be borne by the Petitioner. However, the Liquidated Damages (LD) and Insurance proceeds, if any, received by the generating company on account of the said delay can be retained by the generating company in terms of Regulation 21(5) of the 2019 Tariff Regulations.

(d) Covid-19 Pandemic outbreak

39. The Petitioner has submitted that the delay of 221 days (from 25.3.2020 to 31.10.2020) due to the Covid-19 outbreak had impacted the COD of Unit-II. Respondent PCKL has referred to OM dated 13.5.2020 of the Ministry of Finance, Department of Expenditure, Procurement Policy Division, GOI with regard to the Force Majeure Clause (FMC) which states as under:

“The contractor may invoke FMC for all construction/works contracts, goods & services contracts and PPP contracts with Government agencies and in such event, date for completion of Contractual obligations which had to be completed on or after 20.2.2020 shall stand extended for a period not less 3 months and not more than 6 months without imposition of any cost or penalty on the contractor/ concessionaire.”

40. The Respondent has also submitted that the invocation of FMC will be valid only in a situation where the parties to the contract were not in default of the contractual obligations, as on 19.2.2020. Accordingly, the Respondent has submitted that the delay due to Covid-19 pandemic claimed by the Petitioner is not acceptable.

Analysis and Decision

41. We have examined the matter. Regulation 3(25) of the 2019 Tariff Regulations defines the term ‘force majeure’ in Sub-clause (a) of Regulation 3(25) pertaining to force majeure as under:

“(25) ‘Force Majeure’ for the purpose of these regulations means the events or circumstances 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 of 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
..."

42. It is further observed that the Ministry of Finance (MoF), GoI Notification dated 13.5.2020 states as follows;

"Attention is invited to Department of Expenditure's O.M. No. 18/4/2020-PPD dated 19th February, 2020 on the invocation of Force Majeure Clause (FMC). Vide the O.M., it was clarified that disruption of supply chains due to the spread of Coronavirus will be covered under FMC which could be invoked, wherever considered appropriate, following the due procedure as stated in para 9.7.7 of the Manual on Procurement of Goods.

2. Subsequent to issuance of the above referred O.M., further disruptions have affected the transportation, manufacturing and distribution of goods and services in the country. Limitations placed on the movement of men and materials as per the guidelines issued by the Ministry of Home Affairs (MHA) under the Disaster Management Act, 2005 (DM Act 2005) and the respective State and UT governments from time to time have severely impacted the fulfilment of contractual obligations for supply of goods, works and consultancy services (including other services), and affected the volume of vehicular traffic.

3. Attention in this regard is invited to para 9.7.7 of the "Manual for Procurement of Goods 2017", Para 6.4.2 of the "Manual for Procurement of Works 2019" and para 8.14.1 of the "Manual for Procurement of Consultancy and other Services 2017" issued by the Department of Expenditure. The above referred three Manuals recognize extraordinary events or circumstances beyond human control leading to delays in or non-fulfilment of contractual obligations. In a situation of such events happening, and after following due procedure, parties to the contract are allowed flexibility to invoke FMC following prescribed due procedure.

4. It is recognised that in view of the restrictions placed on the movement of goods, services and manpower on account of the lockdown situation prevailing overseas and in the country in terms of the guidelines issued by the MHA under the DM Act 2005 and the respective State and UT Governments, it may not be possible for the parties to the contract to fulfil contractual obligations. ..."

43. Further, the Ministry of Power, GOI vide its letter dated 25.3.2020 had recognized that the power generation was an essential service for securing smooth and uninterrupted power flow across and within the States and that the operations of the inter-State generating stations were critical for maintaining the power supply. Accordingly, in order to provide the uninterrupted operation of such power generators, the Ministry had also asked the concerned authorities to provide various permissions to such generating stations. The activities pertaining to generation, transmission and distribution were exempted from the nationwide lockdown imposed to restrict spreading of the Covid-19.



However, in this case, the generating station of the Petitioner was in the construction phase and arranging labourers and materials, when there were restrictions imposed due to the pandemic and working with the limited resources, was admittedly a daunting task for the Petitioner. In other words, the generating station was under the construction during Covid-19 pandemic and the essential resources including men and materials which are required for the successful operation of the generating station, were not available.

44. The worldwide pandemic had affected the free movement of materials and manpower that were vital for the timely construction of the Project. Hence, the delay due to Covid-19 has been considered as a Force Majeure condition as it had severely affected the flow of materials, supplies and manpower during project execution. Considering these aspects, we hold that the delay on account of Covid-19 pandemic during the construction of the generating station is not attributable to the Petitioner and hence condoned. Consequently, the liquidated damages, if any, recovered from the contractor or supplier or agency shall be adjusted in the capital cost of the generating station in terms of Regulation 21(4) of the 2019 Tariff Regulations. The Petitioner is directed to furnish the details of the LD and the Insurance proceeds, if any, received by the generating company on account of the said delay at the time of truing up of tariff.

(e) Non-availability of permission for drawl of Start-up Power

45. The Petitioner has claimed the delay due to the non-availability of permission for the drawl of start-up power and injection of infirm power from 1.11.2020 to 24.12.2020. The Petitioner has stated that the delay was due to the failure of the Reheater Coil on Induction Pressure Welding (IPW) Joints, their secondary effects, and subsequent failure from 28.12.2020 to 25.1.2021 when the Unit-II was lit up after obtaining approval from the Appellate Tribunal for Electricity (APTEL) on 24.12.2020.



Submission of the Respondents

46. The Respondent TANGEDCO has submitted that the initial delay in the start of the project resulted in an indefinite shifting of the completion of the activities, which spilled over till December 2020, when the Commission was also not functional. The Respondent has also submitted that the initial delay is entirely under the purview of the Petitioner and accordingly the delay due to the non-availability of permission for availing start-up power and injection of infirm power, are not tenable. The Respondent has further submitted that the execution and completion of the Project work spilled over to the pandemic period during 2020, owing to the abnormal initial delay in the start of the Project work. It has added that since the delay is due to the cascading effect of the initial delay, the prayer of the Petitioner may be rejected.

Analysis and Decision

47. The submissions have been considered. We note that the Commission in its order dated 17.6.2020 in Petition No. 527/MP/2020, had allowed the injection of infirm power of Unit-II of the generation station till 30.9.2020 or till the date of commissioning of the generating station, whichever is earlier. However, Unit-II of the generating station could not be declared under commercial operation. Further, the Petitioner was permitted to draw start-up power vide the Commission's letter dated 30.9.2020 and inject infirm power into the grid to facilitate the commissioning test, including the full load test of Unit-II of the generating station for a period of one month (i.e., from 1.10.2020 to 31.10.2020). Thus, the Petitioner, due to the non-availability of permission for the drawl of start-up power, has claimed a delay of 2 months (w.e.f. 1.11.2020 to 24.12.2020). It is pertinent to mention that since Unit-II of the generating station could not achieve COD even by 31.10.2020, the Petitioner had approached the APTEL seeking relief, and APTEL *vide* its order dated 24.12.2020 in O.P No. 19/2020 had allowed the Petitioner to continue to draw the start-



up power and to inject the infirm power into the grid, for a period of one month or till the declaration of COD of Unit-II of the generating station, whichever was earlier. From the perusal of the documents, it is observed that there was a failure in the regenerative air preheater, and balance erection work in the area of insulation and milling area could not be started. Even though the permission for drawl of start-up power and injection of infirm power into the grid was permitted, the Petitioner was not in a position to declare the COD of the generating station. The Petitioner had filed Petition No. 623/MP/2020 seeking further extension for drawl of start-up power and injection of infirm power into the grid up to 31.3.2021 or up to the COD of Unit-II, whichever was earlier and the Commission *vide* its order dated 2.3.2021 allowed the extension till 3.2.2021, with an observation that the extension of time granted to the Petitioner, shall not automatically entitle the Petitioner for IEDC/IDC for the delay in declaration of COD from the SCOD, and the same will be decided in accordance with the relevant provisions of the Tariff Regulations. In the light of the above discussion, we are not inclined to condone the delay of 2 months w.e.f. 1.11.2020 to 24.12.2020 on this count as claimed by the Petitioner. However, the Liquidated Damages (LD) and Insurance proceeds, if any, received by the generating company on account of the said delay could be retained by the generating company in terms of Regulation 21(5) of the 2019 Tariff Regulations.

C. Technological issues/hindrances /surprises during the execution of the Project:

48. The Petitioner, with respect to technical issues/hindrances/surprises during the execution of the Project, has submitted as under:

(a) Execution delays due to technological issues/surprises:

(a) Requirement of Steel;

(b) Requirement of Specialized material (E350 & E450);

(c) Shortage of main steel structures: The Petitioner has stated a delay of 4 months on this account;

(d) Requirement of fabrication facilities for the heavy structure (i.e., size 2400 X 2400



- mm);
- (e) Material transportation;
- (f) Specialized welding joints;
- (g) Non-availability of skilled labor;
- (h) Flue Gas Duct (FGD);
- (i) Flue Gas Duct needed to be facilitated with higher hanging elevations supports (56 - 116-meter level);
- (j) Flue Gas Recirculation System (FGRS) & Firing system;
- (k) Milling system;
- (l) High elevation wind velocity due to Tower type boiler; and
- (m) Requirement of higher capacity (600 T) crane based on wind velocity.

49. The Petitioner has also submitted that the steel requirement to the tune of 2,01,000 MT needed to be arranged, which was available only with limited resources, viz. M/s SAIL/M/s Jindal, who are the suppliers for M/s BHEL. It has also been submitted that specialized materials like (E350 & E450) are special types of steel to be imported from foreign countries, and since these materials were not available in the domestic market at the appropriate required time, culminated in a shortage of material for essential construction activities of the plant. The Petitioner has further submitted that Heavy structure transported through specialized Heavy Weight Truck Box type column size 2400 x 2400mm with 9M length also required a number of clearances from the local authorities during logistics. The Petitioner has added that special welders with high skill sets were required, as the joints were required at high elevations with high wind velocity, and therefore, the higher capacity (600 T) crane was required for the tandem operation of the higher capacity cranes for heavyweight erections at higher elevations.

Submission of the Respondents

50. The Respondent TANGEDCO has submitted the following:

- (a) The Petitioner being the self-initiator of the project, i.e. installation of lignite fired thermal power station, should have foreseen the obstacles and hindrances prior to the commencement of the project, with proper design and planning. The Petitioner should be well aware of the technologies, materials and required resources and plan accordingly. Since the above aspects are the responsibility of the tenderer and is a "controllable factor" as per Regulation 22(1) of the 2019 Tariff Regulations, the claim of the Petitioner to include the cost related to the above delays in the Project is not



justifiable and is liable to be rejected.

(b) The fabrication works pertaining to Flue Gas Duct, Flue Gas recirculation system, milling system, High elevation wind velocity due to tower type boiler, etc., are part of the project erection works and these cannot be stated to be the reason for the delay. The Petitioner is obligated to carry out the above said works within the scheduled time.

(c) Further, the Petitioner has not furnished the duration of months during which the works got affected due to the Mill system erection activities. Moreover, the delay due to foreign experts' deputation etc., are totally due to the improper planning of the Petitioner and hence liable to be rejected.

(d) The responsibility of the contractor for the completion of any civil works within the timeline and the risk of sourcing the supply of materials is on part of the contractor. Therefore, the delay of 4 months cited by the Petitioner is not reasonable and therefore liable to be rejected.

(e) While placing the contract for the execution of the works associated with the projects, the Petitioner should have included all the above facts. It is the responsibility of the Petitioner to source the required materials for an early completion of the project. The responsibility of M/s. BHEL (the successful tenderer) to arrange for the skilled manpower. The issues in boiler circulation water pump related to design aspects of OEM (Hayward Tyler) and the technological issues should be dealt between M/s BHEL and the Petitioner and the delay could not be taken into the account of beneficiaries. The Petitioner has also not furnished the duration of months during which the works got affected due to the Mill system erection activities. Moreover, the delay due to foreign experts' deputation etc. are totally due to the improper planning of the Petitioner and hence liable to be rejected.

51. Respondent PCKL has submitted that the explanation with reference to the technical issues faced by the Petitioner clearly shows that the Petitioner lacked professionalism in the execution of the projects. It has also submitted that the requirement of the materials like steel and specialized steel, storage, fabrication, welding, and the requirement of skilled labor are the prerequisites for the implementation of such techno-intensive projects. The Respondent has further submitted that the Petitioner has explained the complexity in insulating the furnace (2 times), other related remnant works (i.e., pertaining to air and Flue gas ducts, Mills, Refractory dry out with external burners, erection of SSC,



Spray systems etc.) and the non-availability of skilled manpower towards the completion of the works and improper planning in integration of the local instruments with the Distribution Control System (DCS).

Analysis and Decision

52. The submissions have been considered. The Petitioner has not provided the total number/period of delay caused due to the technological issues/hindrances/surprises during execution, except for the work of the Boiler main steel structure, for which the Petitioner has claimed the delay of 4 months. The Petitioner has stated that for the boiler structure erection, steel was required in huge quantity, but the vendors for the supply of steel in the country were limited, viz., M/s SAIL and M/s Jindal, which are the suppliers for M/s BHEL. The requirement of specialized material (E350 & E450) was for the boiler erection and these special types of steel had to be imported, as they were not available in the domestic market at the appropriate time of requirement. The original commencement schedule of the Boiler main steel structure supply was December 2014, and the original schedule completion was June 2015. The work was to be completed within 7 months. However, the Petitioner started the work in March 2016 and completed it in January 2017, thereby taking 11 months to complete the work. Hence, there is a delay of 15 months for the start of the said work, i.e., December 2014 to March 2016, and further, from the original completion date of June 2015, there is a total delay of 19 months, as on the actual completion date of January 2017. The Investment approval of the project was 9.6.2011, and the project was started with effect from 2013. Since 2013, the Petitioner has been aware of the fact that there will be a requirement for steel in huge quantities of approx. 201000 MT for the boiler structure erection and therefore, the Petitioner should have accordingly arranged the requisite material well in advance. The delay in the supply of material after three years of the commencement of the project work,



is mainly due to the lack of coordination and project management on the part of the Petitioner. Although this generating station is the first 500 MW Lignite based generating station being developed by the Petitioner, however, the Petitioner in the past has developed many lignite-based generating stations ranging from 50 MW to 250 MW. Prior to the commencement of this project, the Petitioner had enough experience for the amount of work and material required for the construction of the lignite based generating station. In this background, the responsibility of the contractor and the Petitioner towards the completion of any civil works within the timeline and the risk of sourcing the supply of materials cannot be passed on to the beneficiaries. The Petitioner, in our view, has failed in the detailed study and proper planning, before envisaging the establishment of the said project. In this background, the delay is attributable to the generating company and therefore, we are not inclined to condone the delay on this count, as claimed by the Petitioner. The Petitioner is at liberty to retain the compensation / LD recovered if any, in terms of Regulation 21(5) of the 2019 Tariff Regulations.

D. NTA-3 Package-Balance of Plant –Insolvency Issues

53. The Petitioner has submitted as under:

(i) LOA has been issued to M/s EPC Constructions India Limited-EPCCIL Mumbai, for the Balance of Plant (NTA-3) package on 30.4.2014;

(ii) Extension of time (referred to as EOT) schedule: The time extension was allowed in the Board meetings as follows:

GROUP		Scheduled Date	I ST EOT 459 th Board (26.5.16)	II ND EOT 467 th Board (20.3.17)	III RD EOT 470 th Board (20.7.17)	IV TH EOT* 478 th Board (21.4.18)
GROUP 1		29.3.2016	31.01.2017	30.9.2017	30.11.2017	
GROUP 2	UNIT I	29.1.2017		30.9.2017	30.12.2017	
	UNIT II	29.7.2017		30.9.2017	31.1.2018	
GROUP 3		29.1.2017		31.1.2018	31.3.2018	31.10.2018
GROUP 4	UNIT I	29.3.2017			31.3.2018	31.10.2018
	UNIT II	29.9.2017			30.4.2018	31.12.2018
GROUP 5		29.5.2017			31.3.2018	31.10.2018



(iii) The contractor M/s. EPCCIL was unable to make the payments to the sub vendors in time and it had come to the knowledge of the Petitioner that on 20.4.2018, the National Company Law Tribunal (NCLT), Mumbai Bench, passed an order on the insolvency proceedings initiated against M/s. EPCCIL. NCLT appointed M/s Deloitte as Insolvency Resolution Professional (IRP). Accordingly, M/s EPCCIL had started demobilizing the resources and the progress of works at site was badly affected. On 11.5.2018, the local sub-contractors, sub-vendors and material suppliers of M/s. EPCCIL assembled in front of the Project gate and obstructed the contract workmen from entering/exiting the site. Further, the workmen of other package works were also prevented from entering/exiting the Project campus and the Petitioner has submitted that the total work was delayed from 11.5.2018.

(iv) Even after the appointment of the IRP, things were not improving significantly. Hence, to expedite the Project, the Board decided to terminate the work and complete the pending works at the risk and cost of M/s EPCCIL by awarding the works to the vendors/sub-contractors of EPCCIL and it was intimated to the IRP vide letter dated 10.8.2018.

Submission of the Respondents

54. Respondent TANGEDCO has submitted the following:

(a) The LOA for the Balance of Plant Package (BOP) was awarded to M/s. EPCCIL on 30.4.2014 and the Insolvency proceedings against M/s. EPCCIL commenced only in April 2018. It has stated that the BOP works could have been executed in parallel, irrespective of the main equipment, such as Boiler and Turbine erection works. The Respondent has also stated that the details of the LD recovered from M/s. EPCCIL, for the delay, has not been enclosed by the Petitioner.

(b) The Petitioner has not furnished as to whether the BG furnished by M/s. EPCCIL was invoked, and other efforts were made to recover the LD amount. In the absence of recovery of LD from the defaulting contractor, the Commission should not allow the claim of delay condonation, as the financial impact shall have to be borne by the beneficiaries /end consumers for no fault. The Petitioner should have made alternate arrangements for the execution of the BOP works but failed to execute the project in a phased manner during the period from 2014 (placing of LOA). The delay is attributable to the generator falling under the “controllable factor” in terms of Regulation 22(1) of the 2019 Tariff Regulations and the same may not be condoned.

55. Respondent PCKL has submitted that the delay is on account of the insolvency issue and handing over of the power from M/s EPCCIL to M/s. IRP, for which additional cost has been incurred. It has also been submitted that the expenditure incurred on account of interest for the time overrun shall not be considered in the capital cost since the



Respondents are not responsible for the event and shall not be burdened towards further payment of capacity charges. The Respondent, while stating that the delay due to the insolvency issue as stated by the Petitioner cannot be considered, has added that the handling of the issue depicts a lack of professionalism and promptness and only a blame game by the Petitioner, which has resulted in a delay in execution of work.

56. Respondent KSEBL has stated that the insolvency proceedings against M/s. EPCCIL commenced only in April 2018, and the Petitioner should have made alternate arrangements for the execution of the BOP works. Hence, it has been submitted that the delay is attributable to the Petitioner. It has also been submitted that it is the responsibility of the contractor, and the planning and alternatives should have been arranged by the contractor. The Petitioner should have made alternate arrangements for the execution of the BOP works.

Analysis and Decision

57. The matter has been examined. The Petitioner has claimed that a delay of 6 months is due to the insolvency proceedings against EPCCIL (formerly Essar Projects India Ltd.) which was awarded the NTA 3 package for the BOP activities on 30.4.2014. The Respondents have stated that the NTA 3 package was awarded in 2014, and the insolvency proceedings started only in 2018; therefore, the claim for the delay is not admissible. From the analysis of the sequence of events as submitted by the Petitioner, it is observed that NCLT appointed the Insolvency Resolution Professional (IRP) on 20.4.2018. On 14.7.2018, the Petitioner's board decided to continue the work and settle the payments of the sub-vendors and the sub-contractors directly, with a right to recover LD from them. The Board also approached the NCLT and sought orders to take over the site from IRP on 14.8.2018 and the NCLT issued the final order on 5.10.2018. The



Petitioner has submitted claims for Rs. 12584.00 lakh before the NCLT, which according to them, was not admitted by NCLT. Further, the Petitioner has amended its claim to Rs. 13284.00 lakh on 2.12.2021 vide affidavit dated 17.10.2022. The Petitioner had also allowed multiple time extensions to M/s EPCCIL. In our considered view, the issue raised by the Petitioner is contractual in nature and reasonable due care should have been taken by the Petitioner for making simultaneous arrangements for completion of the project. From the sequence of events furnished by the Petitioner, it is evident that the work was stopped by the sub-vendors and contractors on 11.5.2018. The Petitioner therefore, decided to settle the payments in respect of the invoices of the sub-vendors and sub-contractors on 14.7.2018. The sub-contractors and sub-vendors, who were uncertain about the payment of their invoices, resumed the works only after a commitment from the Petitioner that due payments would be made. We note that the Petitioner has taken due action within two months to resolve the impasse created by sub-contractors and sub-vendors to resume construction works. Accordingly, we are of the opinion that it is justifiable to allow the claim of the Petitioner for condoning the time overrun on account of the insolvency issue of the NTA 3 package from 11.5.2018 to 14.7.2018, i.e., for 64 days. However, the Liquidated Damages (LD) and Insurance proceeds and court awards if any, received by the generating company, on account of the condoned delay of 64 days shall be passed on to project cost and any additional amount received by it, could be retained by the generating company.

E. Unit Specific delays for Unit I and Unit II

58. With respect to unit specific execution delays, the Petitioner has mainly submitted the following:

Unit I

(i) Unit-I was synchronized with the grid on 28.3.2019, with secondary fuel oil. However, the Unit got tripped on protection on the same day and was shut down in order



to carry out the following major activities for lignite firing so as to achieve COD;

- (a) Unit-I insulation issues and shortage of technical manpower due to holidays in northern India
- (b) Control and instrumentation: The integration of the local instruments with DCS involves added additional complexity as all three individual NTA1, NTA2 and NTA3 Packages has been awarded with unique DCS like ABB, GE(HIMA) and METSO respectively, however, there was shortage of technical manpower as M/s BHEL has terminated the sub agency after Unit-1 first synchronization with Oil and retender was done to complete the work;
- (c) HIMA DCS: The difficulties were faced in the mobilization of experts from Germany for critical equipment and unique in supply like boiler levelling vessel control valves, beater wheel mounting car and BMS/BPS related issues of DCS;
- (d) Refractories and drying out of Unit I: The requisite specialized refractory materials are being supplied from Northern states. Needs special and safety arrangement in the application of refractory in all the vertical FGSR ducts above 12-meter level to 65-meter level. The required approach has raised challenges in timely completion due to interface and safety issues;
- (e) Steam Soot blowers and Water Lancers-Erection & Commissioning: Experts from Germany were required;
- (f) Boiler Circulation Water Pump first failure on 9.8.2019 and BHEL rectified on 29.8.2019 which caused the delay;
- (g) Breakdown of Submerged Scrapper conveyor on 16.9.2019 caused delay upto 24.9.2019;
- (h) Boiler Circulation Water Pump failure happened the second time on 16.10.2019 and caused delay upto 25.11.2019;
- (i) Disruption due to monsoon rainfall caused the delay from 25.11.2019 till 7.12.2019;
- (j) After fine tuning of control loops and system stabilization "Unit-1 of NNTPP 72 hours Full load Trial Operation was commenced on 16.12.2019 at 23.30 hrs. and successfully completed on 20.12.2019 at 03.30hrs" in a single attempt without any tripping/fault. Subsequently COD of Unit-1 was declared on 28-12-2019

Unit II

- (i) Boiler was first lighted up with the Secondary fuel oil on 30.5.2019 at 18:41 hrs for Boiler alkali boil out and acid cleaning. Three Stages Steam Blow Out of Unit-2 commenced with light up activities on 14.8.2019 after preparatory activities on completion of successful of alkali boil out and acid cleaning activities on 15.6.2019 and finally completed on 26.9.2019 in all respects including the erection activities for blow out piping preparatory for each stage and normalization on completion respectively;
- (ii) Non-availability of BCP (22.10.2019 - 12.2.2020): Due to the non-availability of critical boiler equipment, the boiler circulation water pump (BCP) in Unit-2, cannibalized due to failure of BCP in Unit-1 since 22.10.2019. The boiler was lighted up on 14.2.2020, after repair of BCP, and steam dumping and stabilization activity were carried out till 19.2.2020 and stopped till 25.2.2020 for Generator IPBD Clearance rectification works by OEM;
- (iii) Unit-2 boiler was lighted up on 10.3.2020 at 21:42 hrs. for Mills Commissioning as per procedure and first lignite firing achieved on 13.3.2020 and shut down on



15.3.2020.

(iv) Due to outbreak of Covid-19 pandemic, delay caused from 25.3.2020-31.10.2020;

(v) Unit-2 was lighted up on 1.9.2020 at 21.46 hrs. and stopped at 23.47 hrs. on 4.9.2020 to make ready of balance milling system and completion of balance insulation work. After shut down, during the inspection of RAPH-2A, it was found that some of the modules got damaged due to internal fire. M/s BHEL inspected the RAPH-2A and assessed the damage of the modules and started rectification works and completed the works on 6.11.2020;

(vi) Delay due to the non-availability of permission for drawl of start-up power and injection of infirm power caused delay from 1.11.2020-24.12.2020;

(vii) Disruption due to Cyclone "NIVAR" Heavy rainfall in (22.11.2020-27.11.2020);

(viii) Disruption due to cyclonic storm, 'Burevi' and heavy rainfall in (20.11.2020-5.12.2020);

(ix) Delay due to Reheater Coil on Induction Pressure Welding (IPW) Joints Failure and its secondary effects and subsequent failure (28.12.2020-25.1.2021);

(x) Trial operation and COD completion: Trial operation commenced on 27.01.2021 and Unit-2 (500 MW) of NNTPP is declared for Commercial Operation Date (COD) from 00.00 Hrs. on 10.2.2021 after CMD Approval on 8.2.2021 to SRLDC/SRPC.

59. The Petitioner has submitted the GANTT chart showing the critical path vide affidavit dated 6.6.2022 in compliance with the directions vide ROP of the hearing dated 19.5.2022. The Petitioner has also submitted the PERT chart for Units I and II vide affidavit dated 17.10.2022 in compliance with the directions vide ROP of the hearing dated 20.9.2022.

Submission of the Respondents

60. Respondent TANGEDCO has submitted the following:

(a) It is the responsibility of M/s. BHEL (the successful tenderer) to arrange for the skilled manpower. The Petitioner has informed that all mechanical erection was completed and released for commissioning simultaneously and has informed that due to non-availability of specialized skilled manpower caused delay in commissioning and trial operation completion / COD of the Project.

(b) The issues in boiler circulation water pump related to the design aspects of OEM (Hayward Tyler) and technological issues have to be dealt between M/s. BHEL and the Petitioner and the delay could not be taken into the account of the beneficiaries.

(c) The insulation issues are similar in nature for the coal fired thermal stations and



are not specific to the lignite stations. The insulation works in Air duct, PC duct, Flue gas duct, Furnace duct and integral piping can be carried out simultaneously by proper planning.

(d) With regard to the delay caused due to Control and Instrumentation and HIMA DCS and miscellaneous claims such as failure of re-heater coil welding joints, the same is due to the improper co-ordination of the Petitioner with M/s. BHEL and sub agency.

(e) The Petitioner has claimed the delay on the part of the vendor/ sub-vendor in the completion of the work. As per Regulation 22(b) of the 2019 Tariff Regulations, any delay due to delay in the execution of the project on account of supplier/agency shall be controllable in nature and hence are not to be passed on to the beneficiaries.

(f) The Petitioner has started Unit-I light up on 14.6.2019 and refractory dry out (phase II) was started. However, during the course of refractive dry-out, the requisite temperature could not be achieved. Further, the temperature rise required for the firing of lignite could not be obtained, and due to high thermal radiation, people were not able to go near the furnace, and Unit-I was boxed up on 19.6.2019 for strengthening insulation works. This delay is due to the poor quality of insulation works and the inefficiency of the Petitioner in carrying out such works and should not be a reason for seeking a time extension. Further, the Insulation issues stated by the Petitioner are similar in nature to the coal-fired thermal stations and are not specific to the lignite stations. The insulation works in the air duct, PC duct, Flue gas duct, Furnace duct, and integral piping can be carried out simultaneously by proper planning.

(g) The technical issues of boiler circulation water pump (1st failure), breakdown of submerged scrapper conveyor and circulation water pump (2nd failure) are part of the teething issues in the commissioning activities and necessary provision should have been made to handle such technical issues to avoid un-necessary delay. It is the responsibility of the Petitioner to sort out the technological issues with the supplier/ contractors, and therefore the delay on this ground is not justifiable and is liable to be rejected.

(h) The Petitioner has failed to furnish the details about the Performance Guarantee of BCP from OEM and the action taken to recover the payment from the OEM. The Commission may direct the Petitioner to furnish the same. The initial delay in the start of the Project works, resulted in the indefinite shifting of the completion of the activities, which spilled over to as much as December 2020, wherein, the Commission was not functional. In as much as the initial delay is entirely on the purview of the Petitioner, this delay due to non-availability of permission for availing start-up power and injection of infirm power are not tenable and hence may be dismissed.

(i) The execution and completion of the Project works spilled over to the pandemic period during 2020, owing to the abnormal initial delay in start of the Project work.



Since the delay is due to the cascading effect of the initial delay, this claim may be dismissed

61. Respondent PCKL has submitted that it is not known as to whether the operational parameters, as indicated by the OEM had been strictly followed. It has stated that the purchase orders for import of plant and machinery will always include the cost of installation and supervision till successful operation

Analysis and Decision

62. The submissions have been considered. The Petitioner has submitted various technical reasons for the delay caused in the COD of Units-I and II. The Respondents, while pointing out that the issues involved are contractual in nature, have also submitted that arranging the technical manpower and dealing with the issue of commissioning the Project is the responsibility of Petitioner and their contractors, for which due care should have been taken by the Petitioner. It is pertinent to mention that the Petitioner is a renowned power generator in respect of lignite-based power plants, and it has commissioned and completed many other projects. Similarly, the contractor of Petitioner, M/s BHEL, has wide experience in setting up power-generating plants. It is noticed that M/s BHEL had submitted the detailed L1 PERT chart to the Petitioner as part of the bid documents, and the Petitioner had accepted the timelines provided by the contractor. The technical manpower or arranging the supply of special material or the increased quantum of steel, or handling the technical glitches during the commissioning of the Unit cannot be considered a technical surprise or technical issue, as the Petitioner and its contractor are resourceful in arranging the same in order to meet the timelines and by adopting best utility practices. The detailed scrutiny of documents evidence that the agreed timelines between the contractor and the Petitioner, from the original L1 PERT chart, is a thoughtful exercise that was also supported by the international consultant M/s Lahmeyer



International. In this background, we find no reason to condone the delay with regard to the procurement of materials and burden the Respondents on this count.

63. Further, the Petitioner’s claim for the delay due to the failure of insulation, failure of BCP of Unit-II, issues in Control & Instrumentation, Refractories and Drying out, and HIMA DCS, for which trained manpower was unavailable are all contractual obligations falling under the ambit of the contract executed by the parties. Accordingly, the technical issues and surprises, as raised by the Petitioner, to claim delay are contractual obligations for which the Petitioner has adequate risk mitigation under the contract. These issues, in our view, do not fall within the term ‘uncontrollable factors’ in order to seek relief by the Petitioner. The delay on the ground of technical issues/surprises / technical failures, joint failures, boiler related issues etc. during the unit synchronization and for declaration of the COD of the Units, cannot therefore be condoned. Consequently, the cost overrun due to the time overrun on account of the technical issues/surprises / technical glitches during the COD of Units-I and II are to the Petitioner’s account and are not condoned.

Milestone-wise analysis of Time Overrun

64. We have, in the above paragraphs, examined the grounds for time overrun in the completion of the Project. However, to work out the allowable delay due to the aforesaid reasons, there is a need to further analyze the major milestone activities, which got delayed due to the reasons furnished by the Petitioner. The major milestone activities identified by the Petitioner at the start of the project are examined below:

Milestone wise analysis of Unit-I

S. No	Description of Activity / Works / Service	Original Schedule (As per Planning)		Actual Schedule (As per Actual)	
		Start Date	Completion Date	Actual Start Date	Actual Completion Date
1	Investment Approval (Zero date)	-	9.6.2011	-	31.10.2013



S. No	Description of Activity / Works / Service	Original Schedule (As per Planning)		Actual Schedule (As per Actual)	
		Start Date	Completion Date	Actual Start Date	Actual Completion Date
2	Commencement of civil work	31.10.2013	30.6.2014	31.10.2013	30.6.2014
3	Start of Boiler Erection	30.6.2014	31.12.2014	30.6.2014	7.3.2016
4	Boiler Hydro Test (Drainable)	31.12.2014	30.6.2016	7.3.2016	22.8.2018
5	Boiler Light Up	30.6.2016	30.4.2017	22.8.2018	28.12.2018
6	Steam Blowout Completion	30.4.2017	30.6.2017	28.12.2018	20.2.2019
7	Safety valve Floating	30.6.2017	15.7.2017	20.2.2019	18.3.2019
8	Synchronization	15.7.2017	31.7.2017	18.3.2019	28.3.2019
9	Trial Operation completion/COD	31.7.2017	31.10.2017	28.3.2019	28.12.2019

65. In the milestone activity chart of Unit-I pertaining to time overrun, the Petitioner has reckoned the investment approval date due to tender stage delay and has claimed a delay of 875 days on this count. Accordingly, as per the above discussions, the same is condoned and the IA date is reckoned to 31.10.2013. The Petitioner has also claimed delay in the Boiler erection works for 432 days, on account of the requirement of Steel, Boiler Main Steel structure supply, Floods, heavy rains, Sand quarry closure, GST Implementation and Insolvency Issues (NTA-3 package). The claims on account of delays on the aforesaid factors have been examined in detail in the preceding paragraphs and have not been condoned for Unit-I. Further, from the submissions of the Petitioner, it is not clear as to whether the number of days claimed by the Petitioner, for the entire delay, as per the milestone activity, is based on the difference between the original schedule and the actual schedule, and therefore, we have considered the dates and the reasons furnished by the Petitioner for the delay as discussed earlier, and on the said basis, analyzed the milestone-wise delay as in the subsequent paragraphs.

66. The Petitioner has claimed the delay for 351 days in the Boiler Hydro Test (Drainable), and 11 days delay for a Safety valve floating for the same reason as mentioned for the Boiler erection works. On similar grounds, the delay for these activities



is not condoned, except on the issue of NTA-3 package insolvency with a condonation of 64 days (11.5.2018 to 14.7.2018) for the Boiler Hydro Test (Drainable) activity milestone.

67. The Petitioner has claimed a delay of 183 days in the trial operation completion/COD.

The Petitioner, in justification of the same, has submitted as under:

(a) Unit-I was lighted up on 14.6.2019 and refractory dry out (phase –II) was started so as to achieve the targeted date of 30.6.2019 for commissioning of Unit-I. Further the temperature rising required for firing of lignite could not be attained. It was decided to strengthen insulation to make area accessible and safe. As such Unit-I was boxed up on 19.6.2019 and site was remobilized for strengthening insulation works. The Petitioner further submits that the complexity in insulating the Furnace, Air Ducts comprising of Primary, Secondary, over fire and Grate air, Flue gas ducts at a height of 115 Meter Level, and all 8 FGRS duct outside insulation made it tough task and also various approach and safety issues for working at heights with scaffolding arrangements need to be addressed. Insulating the headers of 18 Nos with skin casing along with cold raisers involves more time and front approach after completion of additional Metal Temperature Measurement (MTM) erection for headers.

(b) The delay in the activity was caused due to Control & Instrumentation works, Refractories and Drying out, Steam Soot blowers and Water Lancers-Erection & Commissioning, Boiler Circulation Water Pump First Failure (9.8.2019 to 29.8.2019, Breakdown of Submerged Scrapper Conveyor (16.9.2019 to 24.9.2019), Boiler Circulation Water Pump Failure (Second Time) (16.10.2019 to 25.11.2019) and disruption due to Monsoon Rainfall (25.11.2019-7.12.2019).

68. The claims of the Petitioner on account of the aforesaid delays have been dealt with in detail in the preceding paragraphs, and it is noticed that the delay has not been condoned for the activity i.e., Trial Operation completion/COD of Unit-I in respect of technical issues developed during commissioning activities for Unit-I. However, as per the milestone activity chart, the Petitioner has taken 275 days for the declaration of COD of Unit-I (28.12.2019) from the date of synchronization (28.3.2019). Since the Petitioner was already running out of schedule prior to the synchronization, it should have taken the necessary steps for the declaration of COD of the said Unit within 3 to 6 months after the synchronization. However, it is observed that due to the technical problems in the



machines (BCP failure twice and breakdown of submerged scrapper conveyor), the Petitioner was able to declare the COD of the said unit only after 275 days from synchronization. Considering these factors and keeping in view that it would normally take about 6 months for the declaration of COD after the synchronization, we are inclined to condone a reasonable period of time from the synchronization of Unit-I till the declaration of COD. Accordingly, out of the total delay of 275 days from the date of synchronization to the declaration of COD, a delay of 180 days (6 months), which is normally taken from the date of synchronization till COD to stabilize the unit, has been condoned. Accordingly, the total delay of 180 days is condoned, and the generating company is given the benefit of the additional cost incurred due to time overrun. However, in terms of regulation 21(4) of the 2019 Tariff Regulations, the LD recovered from the contractor and the insurance proceeds, if any, will be considered for the reduction of the capital cost.

Milestone-wise analysis of Unit-II

69. The Petitioner vide its affidavit dated 6.6.2022 has submitted the chronological details for the delay in the COD of Unit-II *vide* Form G, as under:

S. No	Description of Activity / Works / Service	Original Schedule (As per Planning)		Actual Schedule (As per Actual)	
		Start Date	Completion Date	Actual Start Date	Actual Completion Date
1	Investment Approval (Zero date)		9.6.2011		31.10.2013
2	Commencement of civil work	31.10.2013	31.12.2014	31.10.2013	30.6.2014
3	Start of Boiler Erection	31.12.2014	30.6.2015	30.6.2014	7.3.2016
4	Boiler Hydro Test (Drainable)	30.6.2015	31.12.2016	7.3.2016	26.11.2018
5	Boiler Light Up	31.12.2016	31.10.2017	26.11.2018	30.5.2019
6	Steam Blowout Completion	31.10.2017	31.12.2017	30.5.2019	26.9.2019
7	Safety valve Floating	31.12.2017	15.1.2018	26.9.2019	30.1.2021
8	Synchronization	15.1.2018	31.1.2018	26.9.2019	26.2.2020
9	Trial Operation completion/COD	31.1.2018	30.4.2018	26.2.2020	10.2.2021

70. The scheduled COD of Unit-II of the generating station, as per the investment,



approval is 9.12.2015, However, the actual COD of Unit-II of the generating station is 10.2.2021. Accordingly, there is a total delay of 1890 days from the scheduled COD to the actual COD of Unit-II of the generating station. However, from the above chronological details furnished by the Petitioner vide affidavit dated 6.6.2022, it is observed that the effective delay claimed by the Petitioner is 1990 days, which cannot be verified from the details submitted by the Petitioner. Accordingly, the delay of 1890 days is considered for Unit-II of the generating station and dealt with herewith.

71. In the milestone activity chart of Unit-II pertaining to the time overrun, the Petitioner has reckoned the investment approval date due to tender stage delay and has claimed delay of 875 days on this count. Accordingly, as per the above discussions, the same is condoned, and the IA date is reckoned as 31.10.2013. The Petitioner has further claimed the delay in Boiler erection works for 435 days on account of the requirement of Steel, Boiler Main Steel Structure supply, Floods, heavy rains, Sand quarry closure, GST Implementation and Insolvency Issue (NTA-3 package). The claims on account of the said delays have been dealt with in detail in the preceding paragraphs and has not been condoned on the activity/milestone of Unit-II.

72. The Petitioner has claimed further delay of 444 days in the Boiler Hydro Test (Drainable) on account of the same reasons as mentioned for the delay in the Boiler erection works. On similar grounds, the delay for these activities is not condoned, except for the NTA-3 package insolvency issue with the condonation of 64 days (11.5.2018 to 14.7.2018) for the Boiler Hydro Test (Drainable) activity milestone.

73. The Petitioner has also claimed a total delay of 58 days for Steam Blowout completion, and in justification for the same, the Petitioner has submitted that due to the delay in the boiler mechanical erection completion of 29 months, the boiler steam blow-



out activity was completed in 4 months, as against the scheduled 2 months duration. As per the discussion in the preceding paragraphs, the delay of 30 days (21 days for the Boiler Circulation Pump failure and 9 days for the breakdown of the submerged scrapper conveyor) has been condoned.

74. Further, the Petitioner has claimed a total delay of 477 days for Safety valve floating and in justification for the same, the Petitioner has reiterated the submissions made in respect of the delay for Steam blowout completion. It has, however, added that there was non-availability of the Boiler Circulation Pump from 22.10.2019 to 12.2.2020 and the boiler was lighted up on 25.2.2020 and subsequently, Unit-II was first time synchronized to the grid with Oil firing on 26.2.2020 at 20:54 hrs. The Petitioner has stated that the Unit was shut down on the same day and again released for the balance erection and commissioning works completion, and in continuation, the major milestone activity of Boiler Safety valves floating was successfully completed on 30.1.2021.

75. Thus, as per the discussions in the preceding paragraphs, the Commission has considered a total delay of 143 days (114 days for Boiler Circulation Pump failure and 29 days for IPW Joints Failure and its secondary effects and subsequent failure) and has condoned the same.

76. The Petitioner has also claimed a total delay of 137 days for the synchronization of Unit- II milestone on the ground of delay in the preceding activities. It has been submitted that at the time of Unit-I, the synchronization activities were completed with a delay of 4months after a steam blow out completion, and the major delay was due to the non-availability of critical boiler equipment and the boiler circulation water pump (BCP) in Unit-II could not be stabilized due to the failure of BCP in Unit-I since 22.10.2019. The BCP failure delay of 114 days was subsumed within the period of delay of the Safety valve



milestone being condoned as above. Accordingly, no effective delay pertaining to this milestone has been condoned.

77. The Petitioner has claimed a total delay of 261 days in the trial operation completion/COD and, in justification of the same, has submitted that the delay in the preceding activities, the Unit trial operation completion/COD activities was completed with a delay of 8 months, after first-time synchronization activity as per the following grounds:

- (a) Delay due to COVID 19 Pandemic Outbreak (25.3.2020 to 31.10.2020)
- (b) Delay due to non-availability of permission for drawal of start-up power and injection of infirm power (1.11.2020 to 24.12.2020)
- (c) Disruption due to Cyclone "NIVAR" Heavy Rainfall in (22.11.2020 to 27.11.2020)
- (d) Disruption due to cyclonic storm, 'Burevi' & Heavy Rainfall in (20.11.2020 to 5.12.2020).
- (e) Delay due to Reheater Coil on Induction Pressure Welding (IPW) Joints Failure and its Secondary effects and subsequent failure (28.12.2020 to 25.1.2021)

78. The Petitioner has further submitted that the boiler was lit up at 04:44 hrs. on 27.1.2021 and synchronized with the grid at 13:55 hrs. on 27.1.2021 for further commissioning and testing activities before the commencement of 72 hours of full load trial operation. The Petitioner has also submitted that in compliance with the requirements of the IEGC Regulations 2016, the 72 hours of continuous full Load Trial operation to demonstrate the Maximum Continuous Rating of Unit-II (500 MW) of the Project was carried out successfully between 20.16 Hrs. on 31.1.2021 and 20.15 Hrs. on 3.2.2021, as per the "Unit-II Trial Operation Completion Certificate" issued by SRLDC on 8.2.2021 and the Petitioner has declared the COD from 00.00 hrs. on 10.2.2021, after CMD approval on 8.2.2021 to SRLDC/SRPC for Unit-II (500 MW) of generating station.

79. The claim of the Petitioner with regard to the said delays have been dealt with in detail in the preceding paragraphs and the delay of 221 days has been condoned on this activity i.e., Trial Operation completion/COD in respect of technical issues developed during commissioning activities for Unit-II. However, as per the milestone activity chart,



the Petitioner has taken 350 days for the declaration of COD of Unit-II (10.2.2021) from the date of synchronization (22.3.2016). Since the Petitioner was already running out of schedule prior to the synchronization, it should have taken necessary steps for the declaration of COD of the said Unit within 6 months after synchronization. However, due to technical problems in machines (BCP failure and IPW joint failure), the Petitioner was able to declare the COD of the said unit only after 350 days from the date of synchronization. Considering these factors and keeping in view that it would normally take about 6 months for the declaration of COD after synchronization, we are inclined to condone a reasonable period of time from the synchronization of the Unit till the declaration of COD. Accordingly, out of the total delay of 350 days from the date of synchronization to the declaration of COD, a delay of 249 days (221 days on account of covid-19 and 29 days on account of BCP failure and IPW joint failure, i.e., approximately 8 months) has been condoned. Accordingly, the total delay of 249 days has been condoned and the generating company is given the benefit of the additional cost incurred due to time overrun. However, in terms of Regulation 21(4) of the 2019 Tariff Regulations, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

80. Based on the decision on time overrun, on account of the various factors as stated above, the delay in the COD of Unit-I for 1299 days and the delay in the COD of Unit-II for 1367 days have been condoned. 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:



	SCOD	Actual COD	Time overrun claimed by the Petitioner (in months)	Total Delay condoned (in months)	SCOD (reset for IDC and IEDC computation)
Unit-I	9.6.2015	28.12.2019	55 (1663 days)	43 (1299 days)	29.12.2018
Unit-II	9.12.2015	10.2.2021	63 (1890 days)	46 (1367 days)	6.9.2019

81. The Petitioner is directed to submit the cost overrun due to the time overrun from scheduled COD to the actual COD along with the detailed computation, giving breakup of the increase due to the escalation in prices of the different contract packages, increase in IDC & FC, increase in IEDC etc., along with the increase due to the change of scope, if any, with proper supporting documents, at time of truing-up of tariff of the generating station for the period 2019-24.

Capital Cost

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

Clause 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) Capitalized initial spares subject to the ceiling rates in accordance with these regulations;

(f) Expenditure on account of additional capitalization and de-capitalization 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.”

83. The Petitioner has submitted the details of the original investment approval and RCE-II which comprise of both, the domestic and import expenditure, as under:

<i>(Rs. in lakh)</i>							
S. No	Capital Heads	Original Sanction			Revised Cost Estimate (RCE-II)		
		Domestic	Import	Total	Domestic	Import	Total
1	Preliminary expenses	120	-	120	116	-	116
2	Land Development	1450	-	1450	1156	-	1156
3	Civil & Structural	96705	-	96705	100489	-	100489
4	Plants & Equipment's	303148	91370	394518	397723	41654	439377
(i)	Steam & Turbo Generator	170285	78672	248957	237471	39825	277296
(ii)	Other Mechanical Equipment's	29324	2286	31610	40660	-	40660
(iii)	Electrical Equipment, C& I	40036	2744	42780	33965	-	33965
(iv)	Spares	5991	2092	8083	14288	1277	15565
(v)	Erection Charges	32335	-	32335	39354	-	39354
(vi)	Freight & Insurance	10110	5576	15686	3950	552	4502
(vii)	Basic Duties	15067	-	15067	28035	-	28035
5	Overheads	42015	-	42015	69626	-	69626
6	Project cost without IDC	443438	91370	534808	569110	41654	610764
7	IDC & Financing Charges	50292	5611	55903	129150	-	129150
8	Total Capital Cost	493730	96981	590711	698260	41654	739914
Additional Scope							
9	FGD	-	-	-	61215	-	61215
10	Infirm Power (-)	-	-	-	(-)3050	-	(-)3050
11	Net Revised Cost	493730	96981	590711	756425	41654	798079



84. As stated above, the original sanctioned cost of the project is Rs. 590711 lakhs at the October 2010 price level, including IDC of Rs. 55909 lakh and FE component of 217.009 million US \$ (1 US \$ = Rs. 44.69). The hard cost of the project was Rs. 534808 lakhs, excluding IDC (about Rs. 534.00 lakh/MW), which included the Overhead expenses of Rs. 35544.50 lakh. The Petitioner has submitted that the RCE-II for Rs. 798079.03 lakh includes IDC, FC, FERV & Hedging cost of Rs. 129150.00 lakh as approved by the Board of the Petitioner Company. The hard cost of the project at RCE-II as of 10.2.2021 is Rs. 668929.00 lakh, excluding IDC, FC, FERV & Hedging cost (about Rs. 6.68 Crore/MW) but inclusive of the Overhead expenses of Rs. 47568.03 lakh. Thus, the project cost escalation is at 2.06% per annum from 2011 to 2021, which appears to be reasonable and considering the inflation during the same period. The Petitioner has also furnished Form-F pertaining to the cost overrun in respect of the different assets/work. However, the Petitioner has not provided any details or supporting documents, duly certified by the auditor, on the price variation in respect of each item of the package/work.

85. The Petitioner has claimed the capital cost of Rs. 635873.81 lakh, on a cash basis, as on the COD of Unit-I and Rs. 673538.40 lakh, on a cash basis, as on COD of Unit-II *vide* Form B. The details of the capital cost claimed by the Petitioner as on COD of Unit-I and Unit-II are as under:

(Rs. in lakh)

Cost	Original Approved Investment plan	Unit I COD 28.12.2019	On cash basis as on 31.3.2020	Unit II COD 10.2.2021	Undischarged liability as on 10.2.2021	RCE-II
		On cash basis		On cash basis		
Total Capital cost excluding IDC & FC but including Overhead expenses	534807.90	520802.26	529040.79	544081.00	124540.62	668929.00
Overhead expenses	35544.50	48263.92	49707.45	61319.95	0.00	47568.03



Cost	Original Approved Investment plan	Unit I COD 28.12.2019	On cash basis as on 31.3.2020	Unit II COD 10.2.2021	Undischarged liability as on 10.2.2021	RCE-II
		On cash basis		On cash basis		
Total of IDC, FC, FERV & Hedging Cost	55903.08	115071.55	118589.86	129457.40	0.00	129150.00
Capital cost including IDC, FC, FERV & Hedging Cost	590710.98	635873.81	647630.65	673538.40	124540.62	798079.00

86. The Petitioner, in Form-B, has submitted a total hard cost (on cash basis) of Rs. 72538.35 lakh as on COD of Unit-I, Rs. 479333.33 lakh as on 31.3.2020 and Rs. 482761.04 lakh as on COD of Unit-II. Further, the reasons for the increase in the cost for each item have been furnished in Form F. However, the Petitioner has not provided any supporting documents in support of the reasons justifying the claim. However, in justification of the variation between the hard cost, on a cash basis, in Form-B and as per the auditor certified capital cost, it is noticed that the Petitioner has paid an amount of Rs.2450.00 lakh towards Railways Siding and Rs.2226.33 lakh towards CSR expenditure in the Overhead expenses that has not been capitalized in the books of accounts in RCE-II, but, for the purpose of the tariff, the same has been considered as a part of the capital cost.

87. The Petitioner, *vide* Annexure D of its additional submission dated 17.10.2022, has furnished the auditor-certified capital cost for Unit-I and Unit-II, respectively. It is pertinent to mention that the Petitioner has considered the capital cost of Rs. 318549.05 lakh (with notional IDC of amount Rs. 612.14 lakhs) as on the COD Unit-I and Rs. 678384.96 lakhs (with notional IDC of amount Rs. 4846.56 lakhs) for the computation of the annual fixed charges. On perusal of the tariff forms submitted by the Petitioner, it is observed that the Petitioner has claimed the expenditure for both the Units as on the COD of Unit I and claimed half the amount of the total expenditure, including the soft cost for Unit-I.



Accordingly, we have considered the bifurcation of expenses as on the COD of Unit-I in terms of the methodology adopted by the Petitioner. Further, the additional capitalization claimed by the Petitioner during the years 2019-20 and 2020-21 has also been considered on per Form B. The Petitioner is, however, directed to furnish the details of the additional capital expenditure claimed in Form 1, along with the bifurcation of the expenses, at the time of truing-up of the tariff.

Railway Siding

88. The Petitioner *vide* Form B of the amended Petition has claimed an amount of Rs. 2450 lakhs as liabilities on the generating station. Further, the Petitioner has claimed the Railway Siding works as projected additional capital expenditure for the period 2021-24 and has, in Form F, stated that the Railway Siding was not considered in the original investment approval. In compliance with the directions *vide* ROP of the hearing dated 6.2.2024, the Petitioner *vide* its additional submission dated 29.2.2024 stated that the Railway siding works, along with the decanting and storage facility, were envisaged for all generating stations of NLCIL at Neyveli, as a cost-effective measure so as to reduce the freight cost incurred on the transportation of oil from Chennai to Neyveli vis-à-vis the road transport. The Petitioner has, however, mentioned not to take up the Railway siding works for the time being. As the Petitioner has not taken up the siding work in terms of its submissions, the claim for Rs 2450.00 lakh has not been considered or allowed in this order. However, the Petitioner is at liberty to claim the same, if need be, in the future, along with details and documentary evidence.

Infirm Power

89. Regulation 7 of the 2019 Tariff Regulations provides as under:

“7. Sale of Infirm Power: Supply of infirm power shall be accounted as deviation and shall be paid for from the regional deviation settlement fund accounts in accordance with the Central



Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2014:

Provided that any revenue earned by the generating company from supply of infirm power after accounting for the fuel expenses shall be applied in adjusting the capital cost accordingly.”

90. The Petitioner, in Form B of the amended Petition, has submitted that amounts for Rs. 1460.19 lakh and Rs. 1905.48 lakh as infirm power has been adjusted as on the COD of Unit I i.e., 28.12.2019 and Unit II i.e. 10.2.2021. The Commission *vide* ROP of the hearing dated 20.9.2022 had directed the Petitioner to furnish the details of the infirm power and the revenue adjusted on account of the same. In compliance with the said directions, the Petitioner *vide* affidavit dated 17.10.2022 has submitted the following:

Details of Infirm power receipt -SRPC		
S. N.	Date of Receipt	Amount in lakh
1	13.8.2019	31.11078
2	20.8.2019	74.83185
3	17.9.2019	147.15679
4	24.9.2019	204.19410
5	9.10.2019	213.26048
6	15.10.2019	71.13504
7	22.10.2019	296.97156
8	29.10.2019	85.20137
9	10.12.2019	177.41789
10	24.3.2020	25.26940
11	12.1.2021	13.99976
12	2.2.2021	147.45991
13	9.2.2021	417.47530
	Total	1905.48423

91. The Petitioner has, however, not mentioned any other details except for the above. Accordingly, the amount of Rs. 1460.19 lakh and Rs. 1905.48 lakh as the revenue earned by the Petitioner, after accounting for the fuel expenses, has been adjusted in the capital cost on account of the sale of infirm power.

92. Further, the Petitioner has claimed/ adjusted the infirm power sales amounting to Rs. 517.28 lakh under Regulation 24(1)(a) of the 2019 Tariff Regulations, in 2021-22 in the additional capital expenditure. However, the infirm power adjustment pertains to the pre-commissioning expenses and as per the 2019, Tariff Regulations, the revenue earned



from the sale of infirm power prior to date of commercial operation shall be adjusted in the capital cost as on COD of the generating station. The COD of the generating station is 10.2.2021. Accordingly, the amount of Rs. 517.28 lakh pertaining to infirm power adjustment has been adjusted in the capital cost as on COD of Unit-II/generating station. The Petitioner, in Form-B of the amended Petition, has submitted that Rs. 1905.48 lakh as the revenue earned by the Petitioner, after accounting for the fuel expenses, has been adjusted in the capital cost on account of the sale of infirm power. However, considering the amount of Rs 517.28 lakh as discussed above, a total amount of Rs. 2422.75 lakh (Rs. 1905.48 lakhs + Rs. 517.28 lakhs) has been adjusted as revenue generated from infirm power, as on COD of Unit-II of the generating station. The adjustment made as above is subject to the condition that the Petitioner shall, at the time of truing up of tariff, furnish the details of the infirm power injected in the grid up to the COD of Units-I and II, the revenue earned from sale of infirm power excluding fuel cost, and the details of fuel cost and fuel used prior to the synchronization and from synchronization till the COD, for the pre-commissioning activities.

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 10.2.2021 and accordingly, the cut-off date of



the generating station is 29.2.2024. As per the Form B submitted by the Petitioner, *vide* affidavit dated 22.4.2021, the initial spares to be consumed as per the original investment approval cost is Rs. 8083.70 lakh. The same was revised by the Petitioner *vide* RCE-II as Rs.15562.79 lakh. 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 and Unit-II are Rs. 10139.97 lakh and Rs. 10384.74 lakh respectively. Further, the Petitioner has also kept the liability provision of initial spares for Rs. 5178.05 lakh, as on the COD of the generating station and has projected the same in 2021-22 as additional expenditure. The Commission *vide* ROP of the hearing dated 20.9.2022, had directed the Petitioner to furnish the details of mandatory spares and the initial spares capitalized up to the COD. In compliance with the same, the Petitioner *vide* affidavit dated 17.10.2022 has submitted the details of mandatory spares supplied by three vendors. However, with regard to the initial spares, the Petitioner has submitted that it may be permitted to claim the same at the time of truing up of tariff.

95. It is not clear from the submissions of the Petitioner as to whether the mandatory spares form part of the initial spares or if they are separate spares, supplied in the different packages. The Petitioner has, however, sought liberty for furnishing the details of initial spares at the time of truing-up of the tariff. Further, the Petitioner has also not provided the details of the initial spares and the Plant and Machinery cost, as on the cut-off date of the generating station (29.2.2024). Accordingly, the Plant and Equipment cost up to the cut-off date of the generating station is considered as the sum of the actual expenditure as on the COD of the generating station and projected liability is worked out as Rs. 409826.75 lakh (Form-B). Further, the Initial Spares claimed by the Petitioner is Rs 10384.74 lakh, as on the COD of the generating station, which is 2.53% of the Plant and Equipment cost.



96. In the light of the above discussion, we allow the initial spares of Rs. 10384.74 lakh as claimed by the Petitioner, subject to furnishing the relevant details at the time of truing up of tariff. The Petitioner shall provide the audited details of the list of the Initial Spares at the time of truing up of tariff with bifurcation of the amount claimed duly audited and certified along with the revised Form B.

Liquidated Damages

97. The Petitioner has not submitted any details of the LD recovered/to be recovered. The Commission vide ROP of the hearing dated 20.9.2022 had directed to submit the details of the LD recovered, and the Petitioner *vide* affidavit dated 17.10.2022 has submitted that it had filed a consolidated claim for Rs. 12584.00 lakh, as on 31.5.2020, with the liquidator of M/s EPCCIL and the Liquidator on 15.6.2021 had published a modified list of the stakeholders, wherein, the claim of Petitioner has not been considered. Subsequently, the Petitioner has submitted that it has filed an interlocutory Application before the NCLT on 2.12.2021 against the rejection of the Petitioner's claims for a total claim of Rs.13284.00 lakh, and the same is pending and till date LD has not been claimed from M/s EPCCIL. Though the Commission *vide* ROP of the hearing dated 6.2.2024 had directed the Petitioner to submit the updated status on the recovery of LD, the Petitioner has reiterated the above submissions.

98. The Respondent PCKL has submitted that the LD claim of Rs.132.84 crores proposed by the Petitioner before the Liquidator shall be considered for the reduction in the capital cost of the project. In response, the Petitioner has submitted that the LD claim is still pending with the Liquidator, and to date, LD has not been claimed from M/s EPCCIL, therefore, any adjustment of LD in the capital cost may be carried out after the receipt of the order of the NCLT.



99. The submissions have been considered. It is observed that the Petitioner has not furnished any details of the LD recovered, stating that the matter is still pending before the NCLT, Mumbai. Accordingly, we are not inclined to adjust any amount toward the recovery of LD. However, the Petitioner is directed to submit the details of the LD amount, if any, recovered/recoverable/adjustable for the generating station at the time of the truing-up of tariff, based on the final decision of NCLT in the pending matter.

IEDC

100. Regulation 21 of the 2019 Tariff Regulations provides as under:

“(1) xxx

(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.”

101. The Petitioner vide Form B has submitted the details of the Overheads consisting of the establishment cost, design & engineering and contingency. The Petitioner in Form P has provided the head-wise details for the IEDC cost. Respondent TANGEDCO has stated that the details of IEDC during the period of delay has not been furnished by the Petitioner and hence the claim of IEDC beyond the period of SCOD may be rejected.



102. The Petitioner has submitted the following in respect of the Overhead expenses which include an amount of Rs. 2226.33 lakh as expenditure towards CSR:

“A. The break-up of CSR activities carried out year-wise as a part of fulfilling the Environmental clearance condition against the one-time capital cost is as furnished below:

<i>(Rs in lakh)</i>			
S N.	Date	CSR Cost Head	
1	30.9.2015	Peripheral Community Development	69.57
2	31.3.2018	Community development	1099.65
3	30.6.2018	Community development	1000.00
4	31.3.2020	Compound wall	36.52
5	7.10.2020	Nearby schools	9.20
6.	20.11.2020	Compound wall	1.47
7	2.1.2021	Nearby schools	9.93
Total			2226.34

103. Further, the said expenditure has been incurred by the Petitioner from 2015 to 2021, under the different heads as mentioned above. As the expenses toward CSR activities is not recoverable in tariff, the claim of the Petitioner has not been considered/allowed in the Overhead expenses. Accordingly, a pro rata deduction in the IEDC due to the time overrun disallowed in the COD of Units-I and II is worked out and allowed as under:

<i>(Rs. in lakh)</i>				
	Total period taken from zero date to actual COD (days)	Time overrun disallowed (days)	IEDC	Pro-rata reduction = (col.4xcol.3) / col.2
(1)	(2)	(3)	(4)	(5)
Unit -I	2249	364	21962.74*	3554.66
Unit-II	2659	523	59093.61*	11623.15

**after deducting the CSR expenses*

IDC and FC

104. The Petitioner has submitted that the original cost, including IDC, was estimated based on the assumed physical progress of the project and the corresponding funding pattern, with various presumed timelines. The Petitioner has also submitted that IDC is an essential constituent in the cost of the project, which would go in tandem with the incurrence of the hard cost of the project and is based on the actual infusion of funds,



dovetailed with the physical and financial progress of the project. The Petitioner has further submitted that the actual scenario for any project would emerge differently due to various situational elements, culminating in a change in the time schedule and, thus, variance in the contemplated IDC. It has stated that while such issues happen in the projects during the ordinary course of execution of the normal project, resulting in higher IDC, this project of the Petitioner, which is unique in nature and a first 500 MW each unit lignite-based power plant in Asia, the project execution did not fall in the expected trajectory of the physical and financial progress with corresponding deviation in the drawl pattern of the funds and consequential higher IDC outlay. The Petitioner has stated that the entire development has increased the quantum of IDC, which had become inevitable and beyond the control of the Petitioner. The Petitioner has claimed an IDC amount, on cash basis, for Rs.115071.55 lakh as on the COD of Unit I and Rs. 129457.40 lakh as on the COD of Unit II. The details of IDC and FC, as claimed by the Petitioner, are as under:

(Rs. in lakh)

Break Down	As per Original Estimates as per Investment Approval	Actual Exp as on 28.12.2019 (U I COD)	Actual Exp as on 10.2.2021 (U II COD)	Liabilities/ Provision on Station COD	RCE Cost-II
Interest During Construction (IDC)	54495.58	115071.55	129457.40	0.00	129150.00
Financing Charges (FC)	1407.50	-	-	0.00	-
Foreign Exchange Rate Variation (FERV)	-	-	-	0.00	-
Hedging Cost	-	-	-	0.00	-
Total of IDC, FC, FERV & Hedging Cost	55903.08	115071.55	129457.40	0.00	129150.00

105. The Petitioner has furnished the copy of the loan agreements (pertaining to SBI loan of Rs. 2500 crores, PFC loan of Rs. 3000 crores, HDFC loans of Rs.1135 crores and Rs. 821 crores, T-Bill loan of Rs. 1500 crores and Bonds of Rs. 1175 crores) vide Annexure X of the amended Petition, to substantiate its claim. Also, in compliance with the directions



of the Commission *vide* ROP of the hearing dated 12.9.2019, 20.9.2022 and 6.2.2024, the Petitioner has filed additional submissions dated 14.11.2019, 17.10.2022 and 29.2.2024, respectively.

Submission of the Respondents

106. Respondent TANGEDCO has submitted that the delay in the execution of the project lies entirely with the generator and that there is no documentary evidence to show that the Petitioner had made efforts for a prudent phasing of the funds to avoid any increase in the IDC during the period of delay. In response, the Petitioner has submitted that the issues pertaining to IDC and IEDC computed up to the COD have been comprehensively furnished in para 5.0 of the amended Petition along with the Auditor Certificate. The Respondent TANGEDCO has, therefore, prayed to disallow the claim for IDC/IEDC beyond the SCOD.

107. Respondent PCKL has submitted that the claim made by the Petitioner for IDC and IEDC is not justified in terms of Regulation 21(5) of the 2019 Tariff Regulations, as the delay was attributable to the Petitioner. It has also been submitted that the Petitioner has not justified the claim with respect to Regulation 22, as the reasons for the delay are not covered under 'uncontrollable factors. The Respondent PCKL has further submitted that the IDC claimed by the Petitioner is Rs.129457 lakh, which is twice the original sanctioned cost, i.e., Rs. 55903 lakhs, and since the delay in the commissioning of units is attributable to Petitioner and is a controllable factor, the IDC from the scheduled COD to actual COD may be reduced from the capital cost.

Rejoinder of the Petitioner

108. In response to the above, the Petitioner has clarified as under:

- (a) The original cost, including IDC, was estimated based on the assumed physical progress of the project and corresponding funding pattern, with various presumed



timelines. IDC is an essential constituent in the cost of the project, which would go in tandem with the incurrence of the hard cost of the project and is based on the actual infusion of funds, dovetailed with the physical and financial progress of the project. The actual scenario for any project would emerge differently due to various situational elements, culminating change in the time schedule and thus variance in the contemplated IDC.

- (b) While such issues happen in projects during the ordinary course of execution of the normal project resulting in higher IDC, this project, which is unique in nature and a first 500 MW each unit lignite-based power plant in Asia, the project execution did not fall in the expected trajectory of the physical and financial progress with the corresponding deviation in the drawl pattern of the funds and consequential higher IDC outlay. The entire development has increased the quantum of IDC, which had become inevitable and beyond the control of the Petitioner.
- (c) The IDC sanctioned in the 'Investment Approval' of Rs. 55903 lakh is based on feasibility report of the project submitted to the Government of India on the presumed cost and timeline of the project. The actual IDC of Rs. 129457.40 lakh for this Project is attributed to the delays during the Project execution and commissioning and due to factors beyond the control of the Petitioner. The comprehensive details, including the project progress chart and chronological delay analysis, have been submitted along with the detailed workings of the IDC incurred till the COD.

Analysis and Decision

109. The submissions have been considered. The Petitioner has claimed IDC & FC on cash basis, for Rs. 115071.55 lakh on the COD of Uni- I and Rs 129457.40 lakh as on the COD of Unit-II. Considering the fact that out of the total time overrun of 1663 days as on the COD of Unit-I and 1890 days as on the COD of Unit-II, respectively, the time overrun of 364 days and 523 days having been disallowed for the purpose of tariff, the allowable IDC & FC as on COD of Unit-I and Unit-II works out to Rs 38363.60 lakh (half of total IDC till 28.12.2019, i.e. COD of Unit I) and Rs. 103959.97 lakh, respectively. It is noticed that the Petitioner has furnished the bank statement indicating the interest expenses for the SBI loan. However, for the other two loans, i.e. PFC and HDFC, the Petitioner has furnished the details of the interest calculations referring to the respective loan agreements. However, the Petitioner has not furnished the detailed loan account



statement of PFC and HDFC for the construction period for a prudence check of the IDC calculations.

110. Since the tariff of the generating station is subject to truing-up, the IDC & FC for Rs. 38363.60 lakh and Rs. 103959.97 lakh for COD of Unit-I and COD of Unit-II respectively, is allowed. The Petitioner is directed to furnish the detailed loan account statement of PFC and HDFC for the construction period for prudence check of the IDC calculations, at the time of truing up of tariff. Accordingly, in terms of Regulation 21 of the 2019 Tariff Regulations, the allowable IDC is computed below:

	IA Date	SCOD	Actual COD	Scheduled Time	Total Actual Time	Actual Delay	Delay Condoned
	1	2	3	4=2-1	5=3-1	6=5-4	7
Unit -I	9.6.2011	9.06.2015	28.12.2019	1461	3124	1663	1299
Unit-II	9.6.2011	9.12.2015	10.02.2021	1644	3534	1890	1367

(Rs. in lakh)

	Revised COD for computation of IDC	IDC claimed by the Petitioner	IDC Allowed	IDC Disallowed
Unit - I	29.12.2018	57535.77*	38363.60*	19172.17
Unit - II	6.09.2019	129457.40	103959.97	25497.43

*Considered half for Unit I

Notional IDC

111. The Petitioner has claimed a net amount of Rs. 612.14 lakhs and Rs.4846.56 lakhs, after adjusting the interest earned on the SBI loan as notional IDC, as on the COD of Unit-I and Unit-II respectively. The Petitioner has also submitted the Auditor's certificate to substantiate its claim for the 'Normative IDC'. The Petitioner has also furnished the details of the expenses at the end of each month and the corresponding details of the loan and excess equity infused by the Petitioner. The 'Notional IDC' has been claimed towards excess equity infused by the Petitioner. In this regard, the observations of APTEL vide its judgment dated 3.10.2019 in Appeal No. 231 of 2017 with regard to additional capitalization being entitled to be compensated in terms of 'normative IDC' is extracted



below:

“ix) The Central Commission should have taken into consideration the aspect that whatever be the types of funds it is never free of cost. There is always a cost of funding. The argument that no actual loan for additional capital expenditure was taken and therefore it is not admissible for any normative IDC is wrong. It is the commercial decision of the Appellant whether to borrow the money from the market for the purpose of additional capitalization or use its internal accruals. In either case, the capitalization deserves to be given the Interest During Construction. For the simple reasons that if the internal accruals were not to be used as additional capital than it would have been invested in the market in any interest earning instrument. Additional capitalization is therefore entitled to be compensated in terms of normative IDC. The Central Commission should have considered this aspect that no funds are free funds.”

112. The Petitioner has furnished the computation for the ‘Notional IDC’ amounting to Rs. 3876.33 lakh as on the COD of Unit-I and Rs. 6172.58 lakh on COD of Unit II. The Petitioner has also submitted that the interest earned on the SBI loan is Rs. 1326.02 lakh and the same has been adjusted from the ‘Normative IDC’. Accordingly, the ‘net Notional IDC’ of Rs. 612.14 lakh and Rs. 4846.56 lakh has been claimed by the Petitioner. The Petitioner has also furnished the documentary evidence for the basis of the rates of ‘normative Interest’ vide affidavit dated 14.11.2019.

113. The matter has been considered. Notional IDC has been computed up to the revised COD of Unit-I and Unit-II after adjusting the interest earned on the SBI loan, as under:

(Rs. In lakh)

	Notional IDC claimed by Petitioner	Allowable Notional IDC	Disallowed Notional IDC
Unit -I	612.14	612.14	0.00
Unit-II	4846.56	2550.31	2296.25

114. The Petitioner is directed to submit the details of the interest earned on all loans, duly certified by the auditors, at the time of truing-up of tariff.

Additional Capital Expenditure

115. Clauses (1) and (2) of Regulation 24 of the 2019 Tariff Regulations, provides as under:

“24. (1) The additional capital expenditure in respect of a new project or an existing project



incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

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

(b) Works deferred for execution;

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

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

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

(f) Force Majeure events:

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

(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”

116. The Petitioner has claimed additional capital expenditure pertaining to undischarged liabilities recognized to be payable at a future date under Regulation 24(1)(a) of the 2019 Tariff Regulations. The Commission vide ROP of the hearing dated 19.5.2022, had directed the Petitioner to submit the justification for including the projected expenditure towards Emission Control Systems (FGD) as per the MOEF&CC Notification dated 7.12.2015 before the actual installation and commissioning. In response, the Petitioner vide affidavit 6.6.2022 has stated that the tendering process and award of the contract were completed for the supply and installation of FGD system in terms of the said MOEF&CC Notification and has accordingly been claimed as projected additional capital expenditure. It has, however claimed revised additional capital expenditure, including the expenditure towards FGD for Rs. 61215.00 lakh as Undischarged liabilities recognized to be payable at a future date, in accordance of Regulation 24(1)(a) of the 2019 Tariff Regulations.

117. The additional expenditure claimed by the Petitioner on cash basis, for the period 2020-24 is summarized below:



(Rs in lakh)

S. No	Head of Work / Equipment	Regulation	2020-21	2021-22	2022-23	2023-24
1	Preliminary Investigation & Site Development	24(1)(a)	0.87			
2	Steam Generator Island		1588.80	18371.50	4194.82	
3	Turbine Generator Island		569.64	6767.71	122.68	
4	External Water Supply system			173.36		
5	CW system		5.41	169.09	56.29	
6	DM water Plant		4.18	376.22	134.95	
7	Lignite Handling Plant		21.25	3048.83	5565.30	
8	Firefighting System		2.06	185.44	161.81	
9	FGD system, if any			18364.50	24486.00	18364.50
10	Railway Siding			735.00	980.00	735.00
11	Switch Yard Package		13.42	2553.69		
12	Transformers Package		9.68	961.19		
14	Lighting		0.73	421.82		
15	Control & Instrumentation (C & I) Package		5.95	472.42	459.30	
16	Taxes & Duties			3202.77		
17	Initial Spares			5178.05		
18	Main plant/Adm. Building		42.46	2355.42	967.01	
19	Cooling Towers		9.70	378.21	152.39	
20	Ash Handling System		3.02	541.16	228.90	
21	Temp. construction & enabling works		1.60	167.37	70.13	
22	Chimney		847.95	(-) 198.95		
23	Erection Testing and commissioning		25.90	233.06		
24	Construction Insurance		40.29	362.63		
25	Tools & Plant		36.54	328.86		
26	Infirm Power Sales		(-) 517.28			
	Total			2712.17	65149.35	37579.58

118. Respondents, TANGEDCO, and PCKL have submitted that the Petitioner has not furnished any details regarding the total claim towards un-discharged liabilities, and hence, the Commission may reject the entire claim. The Commission *vide* ROP of the



hearing dated 6.2.2024 directed the Petitioner to submit the duly filled Form-J for reconciliation of the capitalization vis-à-vis the audited accounts. Respondent PCKL submitted that the Petitioner might be directed to furnish the details in Format-J, as directed by the Commission for the period 2019-23 since the audited accounts are available. The Petitioner has clarified that the details will be submitted at the time of the truing-up of the tariff.

119. The matter has been considered. It is observed that the items claimed under Regulation 24(1)(a) of the 2019 Tariff Regulations, pertain to form part of the original scope of work and is within the cut-off date of the generating station. However, on perusal of Form 9A, it is envisaged that the Petitioner has claimed the additional capital expenditure on account of Railway Siding works for Rs. 735.00 lakh in 2021-22, Rs. 980.00 lakh in 2022-2023 and Rs. 735.00 lakh in 2023-24 respectively. Since the Petitioner has not taken up the Railway siding works (as stated in para 88 above), the same is not considered.

120. The Petitioner has claimed additional capital expenditure towards the FGD system for Rs. 18364.50 lakh in 2021-22, Rs. 24486.00 lakhs in 2022-23 and Rs. 18364.50 lakhs in 2023-24. Since the FGD implementation schedule is tentative, the additional capital expenditure claimed has not been considered at this stage. The Petitioner is at liberty to claim the same by way of a separate Petition, and the same will be considered in accordance with law. The Petitioner in the Miscellaneous petition is accordingly directed to furnish:

- (a) The approval of CEA regarding technology selection and projected capital expenditure if any.
- (b) The actual SO₂ and NO₂ emission values as submitted to respective State Pollution Control Board since, COD of the generating station;



- (c) The details regarding the basis of arriving at cost indicated for proposed emission control measures (i.e. competitive bidding or some other means) and involvement of beneficiaries in such activity.
- (d) The status of works of ECS for SO₂ and NO₂.
- (e) The head-wise envisaged capital cost for each of the planned solutions to control the SO₂ and NO₂.

121. The Petitioner has also claimed an amount of Rs. 5178.05 lakh in 2021-22 towards Initial Spares under Regulation 24(1)(a) of the 2019 Tariff Regulations. It is pertinent to mention that Regulation 24(1)(c) of the 2019 Tariff Regulations provides for the procurement of Initial capital spares within the original scope of work in accordance with the provisions of Regulation 23 of the 2019 Tariff Regulations. The Initial Spares allowed as on COD of the generating station is Rs. 10384.74 lakh, which is 2.53% of the Plant & Equipment cost. Since the Petitioner has claimed an amount of Rs. 5178.05 lakh as undischarged liability, the total initial spares works out to Rs. 15562.79 lakh, which is 3.80% of the Plant and Equipment cost and falls within the ceiling limit of 4% of the Plant & equipment cost in terms of the regulations. Hence, the same is allowed under Regulation 24(1)(c) of the 2019 Tariff Regulations.

122. The Petitioner has claimed/ adjusted Infirm Power Sales of Rs. 517.28 lakh under Regulation 24(1)(a) in the year 2021-22. However, as per the provision in the 2019 Tariff Regulations, the revenue generated from Infirm needs to be adjusted as on COD of the generating station. Accordingly, the claim of Petitioner of Rs. 517.28 lakh on account of sale of Infirm Power is adjusted in the Capital Cost with summation as Rs. 2422.75 lakh (Rs. 1905.48 lakh + Rs. 517.28 lakh).

123. The Petitioner has not furnished Form-I (Details of Assets de-capitalized during the period), Form-J (Reconciliation of capitalization claimed vis-à-vis books of accounts), and



Form-K (Statement showing details of items/ assets/ works claimed under exclusions) in order to reconcile its claim with the books of accounts. In view of this, the Petitioner is directed to furnish Form-I, Form-J, and Form-K along with the auditor-certified reconciliation of the gross block, on cash as well as on an accrual basis, as per IND-AS and IGAAP, at the time of truing-up of tariff.

124. Accordingly, the projected additional capital expenditure allowed for the period 2020-24 is summarized below:

<i>(Rs. in lakh)</i>						
S. N.	Head of Work / Equipment	Regulation	2020-21	2021-22	2022-23	2023-24
1	Preliminary Investigation & Site Development	24(1)(a)	0.87	-	-	-
2	Steam Generator Island		1588.80	18371.50	4194.82	-
3	Turbine Generator Island		569.64	6767.71	122.68	-
4	External Water Supply system		-	173.36	-	-
5	CW system		5.41	169.09	56.29	-
6	DM water Plant		4.18	376.22	134.95	-
7	Lignite Handling Plant		21.25	3048.83	5565.30	-
8	Firefighting System		2.06	185.44	161.81	-
9	FGD system, if any		-	-	-	-
10	Railway Siding		-	-	-	-
11	Switch Yard Package		13.42	2553.69	-	-
12	Transformers Package		9.68	961.19	-	-
14	Lighting		0.73	421.82	-	-
15	Control & Instrumentation (C & I) Package		5.95	472.42	459.30	-
16	Taxes & Duties		-	3202.77	-	-
17	Initial Spares		-	5178.05	-	-
18	Main plant/Adm. Building		42.46	2355.42	967.01	-
19	Cooling Towers		9.70	378.21	152.39	-
20	Ash Handling System		3.02	541.16	228.90	-
21	Temp. construction & enabling works		1.60	167.37	70.13	-
22	Chimney		847.95	-198.95	-	-
23	Erection Testing and commissioning		25.90	233.06	-	-
24	Construction Insurance		40.29	362.63	-	-
25	Tools & Plant		36.54	328.86	-	-
26	Infirm Power Sales		-	-	-	-
	Total			3229.45	46049.85	12113.58



Discharges and Undischarged liabilities

125. The Petitioner has claimed the projected discharge of liabilities under Regulation 24(1)(a) of the 2019 Tariff Regulations and the same is as per Form-S (i.e., Liability Flow Statement) and Form-9 (i.e., Statement of additional capitalization after COD) for the period from COD of the generating station to 31.3.2021. The liability as on the COD of generating station has been considered, except towards the FGD system, Railway siding works and sale of Infirm Power, as stated above. The discharge of liability as claimed by the Petitioner is treated as the additional capital expenditure, as claimed in Form-9. Further, the revenue from the sale of Infirm Power deducted by the Petitioner in 2020-21 has been considered in the calculation of the capital cost as on COD of the generating station, and is added back in liabilities as on the COD. Accordingly, undischarged liability considered is as follows:

	As on Station COD	2020-21	2021-22	2022-23	2023-24
Undischarged liability claimed in Form B/ Opening	124540.62	61392.90	58163.45	12113.59	-
Less: Railway Siding disallowed	2450.00	-	-	-	-
Less: FGD system	61215.00	-	-	-	-
Add: Infirm Power sale	517.28	-	-	-	-
Addition during the year	-	-	-	-	-
Less: Discharges during the year	-	3229.45	46049.86	12113.59	-
Closing Undischarged liability	61392.90	58163.45	12113.59	-	-

Accordingly, the projected undischarged liability is allowed as additional capital expenditure. However, the Petitioner shall provide the documentary evidence and auditor's statement for the actual discharge of liability, at the time of truing-up of tariff for period 2019-24.

Capital Cost as on the COD of the generating station

126. The Petitioner has claimed the capital cost, on a cash basis, for Rs.482761.04 lakh, excluding IEDC, FC, IDC and FERV, on a cash basis, as on the COD of Unit-II. The



capital cost allowed as on the COD of Unit-II / station on the basis of the cost allowed towards IEDC, IDC (and the cost disallowed on account of Railway siding and CSR related works) is summarized below:

(Rs. in lakh)

	As on 28.12.2019 (COD Unit- I)	As on 10.2.2021 (COD Unit- II)
Capital Cost on cash basis on COD of Unit II including IEDC, IDC, normative IDC, FC, FERV, initial spares and inform power	317936.91	673538.40
Less: CSR Expense Part of Overhead (IEDC) Expense	2169.22	2226.34
Less: IEDC Disallowed	3554.66	11623.15
Less: IDC Disallowed	19172.17	25497.43
Less: Initial Spare disallowed	0.00	0.00
Add: sale of Infirm Power allowed	0.00	(-)517.28*
Add Normative IDC Allowed	612.14	2550.31
Net Capital Cost on cash basis on COD of Unit II including IEDC, IDC, normative IDC, FC, FERV	293652.99	636224.50

**We have adjusted the infirm power of Rs 517.28 lakh as on COD of Unit-II, considering the fact that Rs 1905.48 lakh has been considered as adjusted in the capital cost 673538.40 lakh as on COD of Unit-II.*

127. The Petitioner shall furnish the audited accounts at the time of truing-up of the tariff for the period 2019-24.

Capital cost allowed for the period 2019-24

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

(Rs. in lakh)

	2019-20 (28.12.2019 Unit I COD) to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Opening capital cost	293652.99	299531.41	636224.50	639453.96	685503.82	697617.40
Add: Additional capital expenditure	5878.42	12953.88	3229.45	46049.86	12113.58	0.00
Closing Capital Cost	299531.41	312485.29	639453.96	685503.82	697617.40	697617.40

Debt Equity Ratio

129. 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 utilized 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.

130. The Petitioner has furnished the audited accounts, but the debt: equity ratio as claimed by the Petitioner and as per the audited accounts do not match. Accordingly, the debt-equity ratio of 70:30, as claimed by the Petitioner, has been considered. The Petitioner is directed to furnish the details of the actual debt: equity ratio infused by the Petitioner along with the detailed audited accounts as on COD of both the units



at the time of truing-up of tariff.

Return on Equity

131. 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 center 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.

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

“31. Tax on Return on Equity:

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



business other than business of generation or transmission as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

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:

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

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

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

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

(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."

133. The Petitioner has claimed the Return on Equity (ROE) considering the 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:

	(Rs. in lakh)					
	2019-20 (28.12.2019 Unit I COD) to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Normative Equity - Opening	88095.90	89859.42	190867.35	191836.19	205651.14	209285.22
Add: Addition of Equity due to additional capital expenditure	1763.53	3886.16	968.84	13814.96	3634.08	0.00



	2019-20 (28.12.2019 Unit I COD) to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Normative Equity - Closing	89859.42	93745.59	191836.19	205651.14	209285.22	209285.22
Average Normative Equity	88977.66	91802.50	191351.77	198743.67	207468.18	209285.22
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%
Return on Equity (Pre-tax) - (annualised)	16711.78	17242.35	35939.69	37328.04	38966.67	39307.95

Interest on loan

134. 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.”

135. The Petitioner has claimed tariff considering the Weighted Average Rate of Interest (WAROI) of 8.328% for the period from the COD of Unit-I to 31.3.2020, 7.495% for Unit-



I and from COD of Unit-II for the year 2020-21, 6.752% for the period 2021-24, and the same has been considered.

136. Necessary calculations for Interest on loan is as under:

- i) The gross normative loan corresponding to admissible capital cost works out to Rs. 205557.10 lakh as on COD of Unit-I and Rs. 445357.15 lakh as on COD of station.
- 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.

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

	<i>(Rs. in lakh)</i>					
	2019-20 (28.12.2019 Unit I COD to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Gross Opening Loan (A)	205557.10	209671.99	445357.15	447617.77	479852.67	488332.18
Cumulative Repayments of Loan up to Previous year (B)	0.00	3922.49	17370.86	21821.79	55624.69	90949.25
Net Opening Loan (C = A-B)	205557.10	205749.49	427986.30	425795.98	424227.98	397382.93
Less: Repayments during the year Pro-rata period (D)	3922.49	13448.36	4450.93	33802.90	35324.56	35662.66
Addition due to additional capital expenditure (E)	4114.89	9067.71	2260.62	32234.90	8479.51	0.00
Net Closing loan (F = C-D+E)	205749.49	201368.84	425795.98	424227.98	397382.93	361720.27
Average Loan [G=(F+C)/2]	205653.29	203559.17	426891.14	425011.98	410805.45	379551.60
Weighted Average Rate of Interest (H)	8.328%	7.495%	7.495%	6.752%	6.752%	6.752%
Interest on Loan (I=H*G) annualised	17127.79	15256.41	31994.76	28698.88	27739.59	25629.18

Depreciation

138. 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.

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

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

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

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

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

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

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

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

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

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

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

In case of de-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.”

139. The Petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 5.095% for the period from the COD of Unit-I to 31.3.2020 and 5.092% for the period from 1.4.2020 to 9.2.2021, 5.094% for the period the COD of Unit-



II till 31.3.2021. Further, the Petitioner has considered the WAROD as 5.102% in 2021-22, 5.108% in 2022-23 and 5.112% in 2023-24. 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 of tariff. In view of this, 'nil' value has been considered. Accordingly, WAROD, as claimed by the Petitioner, has been considered. The effective COD of the generating station is 20.7.2020, and hence, the depreciation worked out and allowed for the generating station is as under:

	<i>(In Rs. lakh)</i>					
	2019-20 (28.12.2019 Unit I COD) to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Average capital cost (A)	296592.20	306008.35	637839.23	662478.88	691560.60	697617.40
Less: Land Value (B)	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate Depreciation value at 90% (C =0.9*(A-B))	266932.98	275407.51	574055.31	596231.00	622404.54	627855.66
Balance useful life (D)	25.00	24.91	24.44	23.44	22.44	21.44
Remaining depreciable value at the beginning of the year (E) = [(C) – (Cumulative depreciation at the end of the preceding period i.e. 'H')]	266932.98	271485.02	556684.45	574409.21	566779.85	536906.41
Weighted Average Rate of Depreciation (F)	5.095%	5.092%	5.094%	5.102%	5.108%	5.112%
Depreciation during the year (G) = (Ax F)	15111.93	15583.02	32491.80	33802.90	35324.56	35662.66
Cumulative depreciation at the end of the year (H) = [(G)+ (Cumulative depreciation at the end of previous period)]	3922.49	17370.86	21821.79	55624.69	90949.25	126611.91

Operation & Maintenance expenses

140. Regulation 35(1)(1) of the 2019 Tariff Regulations provides for the following

O&M expenses:



Year	500 MW (lakh/ MW)
2019-20	22.51
2020-21	23.30
2021-22	24.12
2022-23	24.97
2023-24	25.84

141. The Petitioner has claimed O&M expenses for the period 2019-24, as under:

<i>(Rs. in lakh)</i>						
	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Normative O&M Expenses under Regulation 35(1)(1) of the 2019 Tariff Regulations (annualized)	11255.00	11650.00	23300.00	24120.00	24970.00	25840.00
Additional O&M expenses ECS (FGD)	-	-	-	1890.00	1960.00	2030.00
O&M expenses (Regulation 35(1)(6) of the 2019 Tariff Regulations)						
Water Charges	397.38	547.91	547.91	600.12	643.22	690.63
Security Expenses	368.50	405.50	811.00	892.00	981.00	1079.00
Total Operation & Maintenance Expenses	12020.88	12603.41	24658.91	25612.12	26594.22	27609.63

142. The normative O&M expenses claimed by the Petitioner as above, are in terms of Regulation 35(1)(1) of the 2019 Tariff Regulations and hence allowed.

Additional O&M Expenses for FGD

143. The Petitioner has also claimed additional O&M expenses on account of the implementation of FGD amounting to Rs. 1890.00 lakh in 2021-22, Rs.1960.00 lakh in 2022-23, and Rs.2030.00 lakh in 2023-24, as 2% of the capital cost of FGD. Regulation 35(1)(7) of the 2019 Tariff Regulations provides that the O&M expenses on account of the ECS in coal or lignite based thermal generating station shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @ 3.5% during the tariff period ending on 31.3. 2024, provided that income generated from the sale of gypsum or other by-products shall be reduced from



the operation and maintenance expenses. However, it is observed that the implementation of FGD is tentative and the Petitioner has not yet implemented the same. Hence, the O&M expenses claimed for FGD have not been allowed at this stage. However, the Petitioner is permitted to claim the O&M expenses towards FGD on the basis of the actual cost of the FGD package after installing the same, and the same will be considered in accordance with the prevalent regulations.

Water Charges

144. Regulation 35(1)(6) of the 2019 Tariff Regulations provides for the consideration of claim for 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:

145. The Commission *vide* its interim order dated 29.1.2020 in this Petition had allowed the water charges as under:

“..... The Petitioner has claimed water charges consisting pumping charges, personnel charges deputed for the O&M of pumping station and Consent fees paid to the State Government. In the absence of any contracted quantity of water, we have considered the specific water consumption as per CEA norms for 500 MW unit size. Since the claim of the Petitioner is on projection basis and in the absence of actual figures of water consumption, the annual water consumption is restricted to 30.66 million KL per annum for the period 2019-21. The Petitioner has not furnished the basis of the pumping charges and personnel charges deputed for O&M of pumping station, however we have allowed these at `0.376/KL and `0.62/KL respectively as claimed by the Petitioner, for the said period. Since consent fee is a statutory obligation to be deposited to the State authorities by the Petitioner, we allow the same as claimed by the Petitioner.”

146. In terms of the above proviso to the regulation, water charges are to be allowed based on the water consumption, depending upon the type of plant, type of cooling water system etc. subject to prudence check. The Petitioner has furnished the water charges to be allowed in tariff on the quantum of the water, fixed *vide* order dated 29.1.2020 for the period from COD of Unit-I to 31.3.2020 and projected for the period from 2020-21 to 2023-



24. The Petitioner has also provided the details of the water charges, including a letter dated 21.2.2019 regarding the consent fee for water for 2019-20 for Rs. 22.96 lakh under the Water Act and Rs 22.96 lakh under the Air Act. The Petitioner has also furnished a copy of the contract placed on M/s Power Conz, Chennai, for the Water Chemical Treatment Plant, at an enhanced value of Rs 315.53 lakh. The Petitioner in Form 19, has also provided the details of the water charges, for which documents have not been made available. It is observed that the Petitioner has escalated the charges of raw water pump house O&M cost, consent fee and WCTP contract, for which t no explanation/clarification and or documents have been submitted.

147. The matter has been considered. The Petitioner in Form 19, has submitted the details of water charges claimed as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Fertilizer water lake	57.64	115.28	115.28	115.28	115.28
RWPH O&M cost	117.97	124.80	142.75	157.02	172.72
Consent Fee	45.78	45.78	53.83	53.83	53.83
WCTP Contract	175.99	262.06	288.26	317.09	348.80
Total	397.38	547.91	600.12	643.22	690.63

148. The Petitioner has submitted that the water charges consists of the Fertilizer water lake, Raw water pump house O&M expenses, Consent fee payable to the Government account and WCTP contract. The Petitioner has further submitted that there is no contracted quantity of water, in so far as the plants of the Petitioner are concerned, since the aquifer water beneath the lignite seam has been utilized.

149. The Petitioner has considered the quantum of water as 30.66 million KL per annum at the rate of Rs 0.376/ KL and submitted that this rate is as per the Petitioner's inter-unit adjustment account. However, no documents have been submitted in support of the same. As regards the claim towards Fertilizer water lake, we are inclined to allow the said claim since water is supplied through the lake only, as of now. With regard to the Raw



water pump house O&M cost, the Petitioner has not furnished any document and details of the said claim. It is, however, noticed that the Commission, in its order dated 29.4.2024 in Petition No.33/RP/2023 (in Petition No.367/GT/2020), had rejected the claim of the Petitioner in this regard, and hence, the claim is not allowed. Since the consent fee is a statutory obligation to be deposited to the State authorities by the Petitioner, we allow the same as claimed by the Petitioner. However, as regards the WCTP contract claim, the Petitioner has only furnished a copy of the contract placed on M/s Power Conz for the period from 10.3.2018 to 3.12.2020. From the perusal of the said copy of the contract, it is observed that the work awarded is in the nature of O&M (i.e., operation of main plant, sludge treatment, operation of DM plant, Operation of electro chlorination plant, etc.). Accordingly, the water charges claimed for the period 2019-24, is allowed as under:

(Rs in lakh)

	2019-20 (28.12.2019 Unit I COD) to 31.3.2020)	2020-2021 (1.4.2020 to 9.2.2021)	2020-21 (Station COD 10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Fertilizer water lake	57.64	115.28	115.28	115.28	115.28	115.28
Consent Fee	45.78	53.83	53.83	53.83	53.83	53.83

150. However, the water charges allowed as above are subject to truing-up, based on the actual water consumption. Accordingly, the Petitioner is directed to furnish the following details at the time of truing-up of tariff.

(a) *The actual water consumption and details of the water charges paid along with documentary evidence mentioning the date on which the charges were paid to the Water Resource Department/statutory body;*

(b) *The quantum of water consumed for the thermal generating station for the period 2019-24, and corresponding rate of water charges paid along with relevant documents, clearly bifurcating the water charges paid and quantum used for the generating station and Domestic/ township purpose;*

(c) *The details of Raw water pump house O&M cost;*

(d) *Petitioner must justify, how the WCTP contract awarded is part of the water charges? The Petitioner shall furnish the complete details of contract awarded along with scope of work and reason of inclusion of same in the water charges.;*

(e) *The details of fertilizer water lake along with the contracted quantum and rate supported by agreement, and the reason for including it in water charges of the generating station;*



- (f) Excel sheet showing detailed workings; and
- (g) Additional documents in support, if any.

Security Expenses

151. The Petitioner has submitted that security expenses have 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 notice that the Petitioner has not furnished the assessment of the security requirement as per the last proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. It is noticed that the Petitioner's claim for security expenses was granted by the Commission in its order dated 29.1.2020 under:

"The Petitioner has neither furnished any justification for escalation nor the basis for working out the security expenses claimed. Considering the fact that the claim of the Petitioner is on projection basis, we have restricted the claim of the Petitioner to the actual expenditure incurred in 2019-20 i.e., Rs 662.00 lakh."

152. In view of the non-availability of the relevant documents, the Security expenses are restricted at Rs. 662.00 lakh for the period 2020-24. The Petitioner is directed to furnish the actual security expenses incurred along with the details for carrying out the prudence check of the security expenses at the time of truing up of tariff.

Capital Spares

153. 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.

154. Based on the above, the total O&M expenses, including water charges and security expenses, as claimed by the Petitioner and allowed to the generating station for the period



2019-24 is as under:

(In Rs. lakh)

	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 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)	11255.00	11650.00	23300.00	24120.00	24970.00	25840.00
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	11255.00	11650.00	23300.00	24120.00	24970.00	25840.00
Water Charges under Regulation 35(1)(6) of the 2019 Tariff Regulations Claimed (c)	397.38	547.91	547.91	600.12	643.22	690.63
Water Charges under Regulation 35(1)(6) of the 2019 Tariff Regulations Allowed (d)	103.42	161.06	161.06	169.11	169.11	169.11
Capital Spares under Regulation 35(1)(6) of the 2019 Tariff Regulations Claimed (e)	0.00	0.00	0.00	0.00	0.00	0.00
Capital Spares consumed allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations Allowed (f)	0.00	0.00	0.00	0.00	0.00	0.00
Security Expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations Claimed (g)	368.50	405.50	811.00	892.00	981.00	1079.00
Security Expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations Allowed (h)	311.00	311.00	622.00	622.00	622.00	622.00
O&M expenses for ECS (FGD) Claimed (i)	0.00	0.00	0.00	1890.00	1960.00	2030.00
O&M expenses for ECS (FGD) Allowed (j)	0.00	0.00	0.00	0.00	0.00	0.00
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e + g + i)	12020.88	12603.41	24658.91	27502.12	28554.22	29639.63



	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Total O&M expenses allowed under Regulation 35 of the 2019 Tariff Regulations* (b + d + f +h +j)	11669.42	12122.06	24083.06	24911.11	25761.11	26631.11

**Note- Figures shown above are annualized. The Petitioner shall recover the O&M expenses on a pro-rata basis.*

Operational Norms

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

Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kCal/kwh)	2481.725
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kwh)	1.00

(a) Normative Annual Plant Availability Factor (NAPAF)

156. 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.”

157. The Petitioner has prayed to consider the NAPAF as 75% till the generating station gets stabilized in exercise of the power to relax and power to remove difficulties, considering the fact that the station is the first 500 MW each unit lignite-based power plant in Asia. The Petitioner has however not provided any justification for such claim. However, we grant liberty to the Petitioner to approach the Commission with proper justification/documents/data justifying the case for relaxation in the NAPAF during truing up. Accordingly, the NAPAF of 85% as per Regulation 49(A)(a) of the 2019 Tariff Regulations is allowed for the period 2019-24.

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

158. 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 ²)	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
Min. Boiler Efficiency			
Sub-Bituminous Indian Coal	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89
Max. Design Heat Rate (kCal/kWh)			
Sub-Bituminous Indian Coal	2273	2267	2250
Bituminous Imported Coal	2197	2191	2174

Pressure Rating (Kg/cm ²)	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
Min. Boiler Efficiency				
Sub-Bituminous Indian Coal	0.86	0.86	0.865	0.865
Bituminous Imported Coal	0.89	0.89	0.895	0.895
Max. Design Heat Rate (kCal/kWh)				
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.”

159. Based on the guaranteed gross turbine cycle heat rate and the boiler efficiency of 1929.3 kCal/kWh and 89.79%, respectively, the Commission in the interim order dated 29.1.2020 in Petition No. 219/GT/2019, had allowed the GSHR of 2481.725 kCal/kWh. The Petitioner has submitted that the Boiler efficiency of 89.79% considered in the interim order, refers to the efficiency, excluding the losses due to moisture and hydrogen in the fuel, which is specifically mentioned as “efficiency based on LHV basis” in the contract document of the Steam Generator Package. This terminology of Lower Heating Value (LHV) / Net Calorific Value (NCV) is largely used by lignite firing Boiler manufacturers, mostly Germans, as these losses due to fuel characteristics (moisture about 50%) cannot be reduced by any means, in order to match the efficiency of their firing system with that of the coal fired Boiler manufacturers. The Petitioner has submitted the price evaluation report of NTA 1 vide Annexure VI and has prayed that the Boiler efficiency of 75.32% ought to have been considered, while deciding on the Station Heat rate. Accordingly, the Petitioner has submitted that the Station Heat Rate of 2689.54 Kcal/kWh ($1929.3/75.32*1.05$), should be considered, without multiplying by 1.1 (provided for moisture content, since HHV has been reckoned). The Petitioner has submitted that keeping in view the above technical propositions and also that the efficiency of the unit has not been demonstrated and the PG test of the generating station is yet to be commenced, the Commission may grant the SHR of 2689.54 Kcal/kWh in exercise of the power to relax/power to remove difficulties and to also grant liberty to approach the



Commission after the PG test is completed.

160. The Respondents TANGEDCO and KSEBL have submitted that the design and selection of the boiler/steam generator has been made by the Petitioner in full appreciation of the fact about the heat rate. They have also submitted that the heat rate norms have been prescribed after extensive consultation with the stakeholders and hence, seeking the relaxation at this juncture due to failure on the part of the generator to achieve the SHR is not justifiable. The Petitioner, in its rejoinder to the above, has submitted that the Commission has allowed the GSHR of 2481.725 kcal/kwh based on the contracted document boiler efficiency. It has stated that in the present case, the GSHR has been worked out by considering 75.32% boiler efficiency the HHV basis, and not on 89.79% on LHV basis and since HHV is considered, the component of 1.1 is not multiplied, which is provided for moisture content for GSHR calculations. The Respondents have also stated that the boiler efficiency of 75.32% on a GCV basis has been submitted and the same may be considered.

161. We have examined the submissions of the parties. For the computation of ECR, the Petitioner has considered the Gross SHR (GSHR) of 2481.73 kCal/kWh as approved *vide* order dated 29.1.2020. This GSHR of 2481.73 kCal/kWh has been worked out by considering the Boiler efficiency of 89.79%, but the Petitioner has sought to consider the Boiler efficiency of 75.32%, while deciding the SHR of the generating station. This claim has been made by the Petitioner, in order to match the efficiency of their lignite firing system with that of Coal Fired Boiler Manufacturers. This terminology of Lower Heating Value (LHV) / Net Calorific Value (NCV) is largely used by Lignite Firing Boiler Manufacturers, as these losses due to fuel characteristics (moisture about 50%) cannot be reduced by any means. Since the Petitioner has submitted that the efficiency of the



unit has not been demonstrated and the PG test of the generating station is yet to commence, we grant liberty to the Petitioner to approach the Commission with all details, along with the PG test report and weight percentage (%) of the moisture in fuel as well as the weight percentage (%) of hydrogen in fuel, at the time of truing-up of tariff and same will be considered in terms of the relevant regulations. Accordingly, we, at this stage, allow the GSHR of 2481.73 kCal/kWh, in terms of the interim order dated 29.1.2020.

(c) Specific Oil Consumption

162. Regulation 49(D)(b) of 2019 Tariff Regulations provides as under:

“For Lignite-fired generating stations except TPS-I: 1.0 ml/kWh”

163. Since the secondary fuel oil consumption of 1.0 ml/kWh claimed during the period 2019-24, is in terms of the above regulation, the same is allowed.

(d) Auxiliary Power Consumption

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

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

S. N.	Generating Station	With Natural Draft cooling tower or without cooling tower
(i)	200 MW series	8.50%
(ii)	300 MW and above	
	Steam driven boiler feed pumps	5.75%
	Electrically driven boiler feed pumps	8.00%

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

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

Type of Dry Cooling System	(% of gross generation)
<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.

(d) *For Lignite-fired thermal generating stations:*



(i) For all generating stations with 200 MW sets and above:

The auxiliary energy consumption norms shall be 0.5 percentage point more than the auxiliary energy consumption norms of coal-based generating stations at (E) (a) above.”

165. In terms of the above Regulations, the Petitioner has considered the auxiliary energy consumption of 6.25% during the period 2019-24. The Petitioner has prayed for considering the APC of 7.25% on account of the project being 500 MW Lignite based technology, for the first time with a greater number of auxiliary equipment's. The Petitioner has also claimed the additional APC of 2.15% on account of the FGD system and has submitted that LOA for FGD has been issued on 31.1.2022 with a vide its additional submission dated 1.4.2022.

166. Respondents TANGEDCO and KSEBL have submitted that the request of the Petitioner cannot be entertained, as there is no proper justification for the increase in Auxiliary consumption with respect to special equipment employed, extra power consumption of equipment etc.

167. The matter has been considered. Since the FGD implementation schedule is tentative, the additional auxiliary consumption claimed has not been considered. The Petitioner has not justified its claim for additional auxiliary consumption due to the lignite-based technology with a greater number of auxiliary equipment's. The Petitioner is therefore granted liberty to file a separate petition with regard to the claim for additional auxiliary power consumption and the cost of FGD with proper details and justification thereon for claiming the higher auxiliary power consumption, and the same will be considered in accordance with the law. In view of this, the auxiliary consumption of 6.25% is allowed for the period 2019-24.

Interest on Working Capital

168. 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) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:

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

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

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

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

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

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

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

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

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

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

Provided that in case of new generating station the cost of fuel for the first financial year



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

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

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

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

Fuel Cost and Energy Charges in Working Capital

169. 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 taking into account the normative transit and handling losses, in terms of Regulation 39 of these regulations and GCV of fuel as per actuals, weighted average for three months preceding date of commercial operation for which tariff is to be determined. Regulation 43(2) of the 2019 Tariff Regulations provides as under:

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

(a) For coal based and lignite fired stations:

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

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 liter 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.”

170. 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 on average transfer price of lignite and ‘as received GCV of lignite coal procured for the three months of October 2019, November 2019 and December 2019 for Unit I and for the month of November 2020, December 2020 and January 2021 for the COD of Unit-II. The average transfer price of lignite is considered as Rs. 2132.239 per ton for 2610 kcal/ kWh for entire tariff period. The average transfer price is subject to truing up exercise. The price of lignite considered as above is subject to adjustment in terms of Regulation 36 of the 2019 Tariff Regulations. ECR, on month-to-month basis, shall be calculated as per Regulation 43(2)(a) of the 2019 Tariff Regulations.

(c) Price and GCV of secondary fuel oil for the three months of October 2019, November 2019 and December 2019 for Unit I and for the month of November 2020, December 2020 and January 2021 for the COD of Unit-II.

171. Accordingly, the Petitioner has claimed ECR of Rs 2.211 per kWh for the period from COD of Unit-I to COD of Unit-II and Rs.2.228 for the period from COD of Unit-II to 31.3.2024 and has claimed the following:

	<i>(Rs.in lakh)</i>					
	2019-20	2020-21	2020-21	2021-22	2022-23	2023-24
Cost of Lignite towards 10 days Stock	2072.14	2072.14	4192.66	4192.66	4192.66	4192.66
Cost of Lignite towards 30 days of Generation	6216.41	6216.41	12577.99	12577.99	12577.99	12577.99
Cost of Secondary Fuel Oil for 2 months	259.67	258.96	415.75	415.75	415.75	416.89

172. Further, the Petitioner has submitted the auditor certified Form-15. On perusal of the same, it is observed that the Petitioner has included the opening stock of lignite and its corresponding value, while computing the weighted average price of coal for the three months prior to COD of each unit. The Petitioner has also considered the weighted average transfer price of lignite as applicable for 2018-19 i.e. Rs. 2132.24 per ton.



However, it is observed that the weighted average transfer price of lignite for the period 2018-19 of Rs. 2132.24/ton was claimed by the Petitioner during filing of the Petition in the year 2019. Subsequent to filing of the Petition, the Commission vide order dated 24.3.2022 and subsequently corrigendum order dated 26.4.2022 in Petition No. 452/MP/2019 had allowed the base lignite transfer price of Rs. 2021/ton (which was excluding taxes and duties) for the year 2018-19. Pursuant to the remand by APTEL, the Commission vide its order dated 19.5.2024 in Petition No. 17/RP/2022 (in Petition No. 452/MP/2019 along with IA No. 61/2023), had allowed the base lignite transfer price (excluding royalties, taxes & duties) of Rs. 2033.92/ton for 2018-19. Accordingly, the pooled base lignite transfer price of Rs. 2033.92/ton has been considered for the determination of tariff of the generating station for the period 2019-24. However, for the present, the weighted average price and GCV of oil, as furnished by the Petitioner has been considered. The Petitioner is directed to furnish Form-15, duly certified by the auditor, in respect of both the lignite and secondary fuel oil, 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 lignite and oil allowed for the period 2019-24, is as under:

	For the period from COD of Unit-I to COD of Unit-II	For the period from COD of Unit-II to 31.3.2024
	Allowed	Allowed
Weighted average price of lignite (Rs. /MT)	2033.92	2033.92
Weighted average GCV of lignite (kCal/kg)	2610	2579.88
Weighted average price of oil (Rs. /KL)	41880.67	33971.93
Weighted average GCV of oil (kCal/lit)	10085.51	9905.21

173. Accordingly, the cost of lignite and secondary oil fuel as claimed is allowed. Accordingly, the approved charges are as follows:



(In Rs. lakh)

	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Cost of Lignite towards 10 days Stock	1964.62	1964.62	3975.41	3975.41	3975.41	3975.41
Cost of Lignite towards 30days of Generation	5893.86	5893.86	11926.22	11926.22	11926.22	11926.22
Cost of Secondary Fuel Oil for 2 months	260.58	259.87	421.59	421.59	421.59	422.75
Energy charges (Paise / kWh)	2.099	2.099	2.115	2.115	2.115	2.115

174. Since the O&M and auxiliary consumption for FGD implementation, has not been considered, as discussed earlier, the working capital on account of FGD related components has also not been considered in this order.

175. 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

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

(Rs. in lakh)

2019-20	2020-21	2020-21	2021-22	2022-23	2023-24
2404.18	2520.68	4931.78	5122.42	5318.84	5521.93

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



(Rs.in lakh)

2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
2333.88	2424.41	4816.61	4982.22	5152.22	5326.22

Working Capital for Receivables

178. 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 (28.12.2019 9 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Variable Charges - for 45 days	9032.26	9032.26	18202.22	18202.22	18202.22	18202.22
Fixed Charges - for 45 days	7873.13	7816.32	16147.94	16126.08	16510.32	16507.43
Total	16905.39	16848.58	34350.16	34328.30	34712.54	34709.65

Working Capital for O&M Expenses (1 month)

179. 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 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
1001.74	1050.28	2054.91	2134.34	2216.18	2300.80

180. 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:



(Rs.in lakh)

2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
972.45	1010.17	2006.92	2075.93	2146.76	2219.26

Rate of Interest on Working Capital

181. In line with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e., 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 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:

(Rs.in lakh)

	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Working Capital for Cost of lignite towards Stock - (10 days generation corresponding to NAPAF) (A)	1964.62	1964.62	3975.41	3975.41	3975.41	3975.41
Working Capital for Cost of lignite towards Generation – (30 days generation corresponding to NAPAF) (B)	5893.86	5893.86	11926.22	11926.22	11926.22	11926.22
Working Capital for Cost of Secondary fuel oil - (2 months generation corresponding to NAPAF) (C)	260.58	259.87	421.59	421.59	421.59	422.75
Working Capital for Maintenance Spares @ 20% of O&M expenses (D)	2333.88	2424.41	4816.61	4982.22	5152.22	5326.22
Working Capital for Receivables – (45 days of sale of electricity at NAPAF) (E1)	9032.26	9032.26	18202.22	18202.22	18202.22	18202.22
Working Capital for Receivables – (45 days of	7873.13	7816.32	16147.94	16126.08	16510.32	16507.43



	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
capacity charges (E2)						
Receivables for 45 Days (E=E1+E2)	16905.39	16848.58	34350.16	34328.30	34712.54	34709.65
Working Capital for O&M expenses - 1 month (F)	972.45	1010.17	2006.92	2075.93	2146.76	2219.26
Total Working Capital (G = A+B+C+D+E+F)	28330.79	28401.51	57496.91	57709.67	58334.74	58579.50
Rate of Interest (H)	12.050%	11.250%	11.250%	10.500%	10.500%	12.000%
Interest on Working Capital for annualized (J=G*H)	3413.86	3195.17	6468.40	6059.51	6125.15	7029.54

Annual Fixed Charges approved for the period 2019-24

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

(Rs.in lakh)

	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 to 31.3.2021)	2021-22	2022-23	2023-24
Depreciation	15111.93	15583.02	32491.80	33802.90	35324.56	35662.66
Interest on Loan	17127.79	15256.41	31994.76	28698.88	27739.59	25629.18
Return on Equity	16711.78	17242.35	35939.69	37328.04	38966.67	39307.95
Interest on Working Capital	3413.86	3195.17	6468.40	6059.51	6125.15	7029.54
O&M Expenses	11669.42	12122.06	24083.06	24911.11	25761.11	26631.11
Total	64034.78	63399.01	130977.71	130800.44	133917.08	134260.43

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.

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

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

	2019-20 (28.12.2019 to 31.3.2020)	2020-21 (1.4.2020 to 9.2.2021)	2020-21 (10.2.2021 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	95	315	50	365	365	366



Application Fee and Publication expenses

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

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

187. Petition No. 219/GT/2019 is disposed of in terms of the above.

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

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

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

