

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 281/GT/2020

Coram:

**Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member**

Date of Order: 2nd May, 2025

In the matter of

Petition for approval of tariff of Tanda Thermal Power Station, Stage-II (1320 MW) for the period from COD of Unit-I (i.e. 7.11.2019) to 31.3.2024.

And

In the matter of

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

.... Petitioner

Vs

1. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan 14, Ashok Marg,
Lucknow – 226 001.
2. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun – 248 001.
3. Rajasthan Urja Vikas Nigam Limited,
Vidyut Bhawan, Janpath,
Jaipur – 302 005.
4. Power Development Department,
Govt. of J&K, Civil Secretariat,
Srinagar, J&K – 180 001.
5. Haryana Power Purchase Centre,
Shakti Bhawan, Sector - 6,
Panchkula, Haryana – 134 109.



6. Electricity Department (Chandigarh),
Union Territory of Chandigarh
Addl. Office Building
Sector-9D, Chandigarh – 160009.

.... Respondent(s)

Parties present:

Shri Venkatesh, Advocate, NTPC
Shri Aashwyn Singh, Advocate, NTPC

ORDER

This Petition has been filed by the Petitioner, NTPC Limited, under Section 79(1)(a) of the Electricity Act, 2003 for the approval of tariff of Tanda Super Thermal Power Station, Stage-II (1320 MW) (in short ‘the Project/generating station’) for the period from the COD of Unit-I (i.e., 7.11.2019) to 31.3.2024, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (in short ‘the 2019 Tariff Regulations’). The generating station, located in the Ambedkar Nagar district of the State of Uttar Pradesh, comprises two units of 660 MW each. The actual date of commercial operation of both the units of the generating station is as under:

Units	COD
Unit-I	7.11.2019
Unit-II	1.7.2021

2. The Ministry of Power, GOI vide its letter dated 17.7.2017 allocated the power from the generating station to the Respondent beneficiaries as detailed below:

States	Total Allocation in (MW)	Share in Installed Capacity (%)
Haryana	44.07	3.34
J&K	69.39	5.26
Rajasthan	87.98	6.67
UP	943.45	71.47
Uttarakhand	37.93	2.87
Chandigarh	5.18	0.39
Unallocated	132	10.00
Total	1320.00	100.00

3. The Investment Approval (IA) of the project was accorded by the Board of the Petitioner



Company in its 411th meeting held on 10.9.2014 at A. F. Ferguson & Co. appraised estimated completed cost of Rs.10016.10 crore, including IDC & FC of Rs.1511.42 crore and working capital margin of Rs.222.65 crore as of 2nd Quarter of 2014 price level. The Petitioner further submitted that the installation of Flue Gas Desulphurization (FGD) at a total cost of Rs.653.04 crore for the project was approved in compliance with the MOEF&CC Notification dated 7.12.2015, to meet the revised environmental (SO_x) parameters, which formed part of the original scope of the project. Accordingly, the Petitioner has considered the total approved estimated cost of the project as Rs.10669.14 crore.

4. The Petitioner had initially filed the present petition for approval of the tariff of the generating station, for the period from the anticipated COD of Unit-I (i.e., 7.11.2019) to 31.3.2024, along with the anticipated additional capitalization up to 31.3.2024. However, on declaration of the COD of Unit-I on 7.11.2019, the Petitioner vide affidavit dated 12.4.2021 revised the tariff of the generating station for the period 2019-24, based on the actual additional capitalization up to the COD of Unit-I and the projected additional capital expenditure up to 31.3.2024. Thereafter, the Petitioner vide affidavit dated 21.6.2022, further revised its claim for the period 2019-24, after the declaration of COD of Unit-II on 1.7.2021, based on the audited capital cost up to the COD of the generating station and projected additional capital expenditure thereafter up to 31.3.2024. The tariff claimed was further revised by the Petitioner for the period 2019-24 vide affidavit dated 30.6.2023 based on the audited capital cost up to the COD of the generating station and the projected additional capital expenditure up to 31.3.2024.

5. Based on the above, the capital cost (on cash basis) and the annual fixed charges claimed by the Petitioner for the period from the actual COD of Unit-I (7.11.2019) till 31.3.2024 are as under:



Capital Cost

(Rs. in lakh)

	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Capital cost as on COD	415936.66			800802.43		
Add: Notional IDC	1246.36			2557.52		
Add: ERV charged to revenue	5776.16			16124.36		
Opening Capital Cost	422959.19	450034.98	478972.01	819484.31	842226.90	915252.42
Add: Addition during the year / period	15321.36	13494.20	1177.70	22742.59	73025.52	25761.60
Add: Discharges during the year / period	11754.43	15442.84	246.32	0.00	0.00	0.00
Closing capital cost	450034.98	478972.01	480396.03	842226.90	915252.42	941014.02
Average capital cost	436497.08	464503.50	479684.02	830855.60	878739.66	928133.22

Annual Fixed Charges

(Rs. in lakh)

	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Depreciation	19760.23	21097.79	21878.72	38281.41	40487.65	42763.44
Interest on Loan	16235.58	14988.16	14785.19	25980.94	25506.14	24621.72
Return on Equity	24594.86	26172.91	27028.28	46815.39	49513.46	52296.59
Interest on Working Capital	5242.55	5014.84	4929.28	9838.09	10893.19	10758.58
O&M Expenses	16811.30	15487.19	16313.96	35410.79	54809.25	50251.54
Total	82644.52	82760.89	84935.43	156326.62	181209.69	180691.87

Commissioning Schedule

6. As stated, the IA for the project was accorded by the Board of the Petitioner Company in its 411th meeting held on 10.9.2014. Accordingly, the Petitioner has considered 10.9.2014 as the 'Zero Date'. Further, as per the IA for the project, the scheduled project completion time



was approved as 52 months for commissioning of Unit-I and 6 months thereafter, for Unit-II, by the Board of the generating company. In view of the above, the Petitioner has considered the Scheduled Commercial Operation Date (SCOD) of Unit-I as 10.1.2019, and that of Unit-II as 10.7.2019. However, the actual COD of Unit-I is 7.11.2019 and that of Unit-II is 1.7.2021, thereby resulting in a delay of approximately. 10 months (or 301 days) for Unit-I and approx. 24 months (or 722 days) for Unit-II from SCOD as under:

	SCOD	Actual COD	Time Overrun
Unit-I	10.1.2019	7.11.2019	301 days
Unit-II	10.7.2019	1.7.2021	722 days

7. The reasons furnished by the Petitioner, in justification for the time overrun, are summarized below:

S. N.	Reasons for the delay (External factors)	Unit- I	Unit- II	Remarks
		No. of days lost/ affected	No. of days lost/ affected	Affected activities
1	Land Acquisition Issue: Law and Order Issue caused by the protest by the Villagers	91	91	All project packages, COD of Units
2	Land Acquisition Issue: Delay in Possession of Govt. Abadi Land and Hindrance created by the Villagers in vacating the same	304	304	All project packages, COD of Units
3	Land Acquisition Issue: Interim order for "Status Quo" passed by Hon'ble Supreme Court <i>vide</i> order dated 05.01.2016, which was subsequently vacated <i>vide</i> subsequent order dated 10.05.2016, and subsequent remobilization/ normalization	146	146	All the project activities, COD of Units (i.e., Main plant as well as offsite civil and erection works)
4	Land Acquisition Issue: Delay in land acquisition of AHP/ CHP and Railway siding area due to pendency of petitions filed by villagers before the Hon'ble Allahabad High Court & then before the Hon'ble Supreme Court	470	0	Unit-I: AHP/ CHP and Railway siding civil and erection works;
5	Excessive Rain	122	122	All project packages, COD of Units
6	Ban on sand mining	365	455	Main plant and offsite civil and erection work., COD of Units
7	Corona Pandemic Wave-I	0	192	Unit-II: All project packages; COD of Unit-II
8	Corona Pandemic Wave-II	0	60	Unit-II: All project packages; COD of Unit-II

8. The Petitioner has filed the additional information as sought by the Commission on



13.5.2021. Respondent UPPCL has filed its replies on 19.5.2020, 28.6.2021, and 23.7.2021, and the Petitioner has filed its rejoinders to the same on 28.6.2021, 26.7.2021, and 30.9.2021, respectively. The Petition was heard virtually on 6.1.2023, and the Petitioner was directed to file certain additional information. In response, the Petitioner filed the additional information on 24.2.2023, after serving a copy on the Respondents. Subsequently, the matter was heard on 6.4.2023, wherein the counsel for the Petitioner circulated a note of arguments and made detailed oral submissions in the matter, and subsequently, the order was reserved in the Petition. None appeared on behalf of the Respondents, despite notice. The Petitioner was also directed to file certain additional information, and in response, the Petitioner has filed the additional information on 3.5.2023, with a copy to the Respondents. Further, the Petitioner submitted the additional information vide affidavit dated 30.6.2023 in compliance with the technical validation letter issued on 17.4.2023. Thereafter, as one of the members who formed part of the coram, who heard the matter, demitted office, the Petition was relisted and heard on 6.2.2024, and the Commission reserved its order. However, the Petition was again relisted and heard on 8.11.2024, and the Commission reserved its order in the Petition. Based on the submissions of the parties and the documents available on record, and on a prudent check, we proceed with the determination of the tariff of the generating station for the period from the actual COD of Unit-I (7.11.2019) to 31.3.2024, as stated in the subsequent paragraphs.

Time overrun

9. The Petitioner vide affidavit dated 21.6.2021 has furnished the detailed reasons for the time overrun along with the delay analysis, indicating the activities delayed, the reasons for the said delay, and the corresponding delay on account of the delay in each of the activities, corresponding to the units. The Commission vide ROP to the hearing dated 6.1.2023, inter alia, had directed the Petitioner to furnish CPM analysis, PERT & Bar chart indicating the



critical activities/milestones and deviation thereof with supporting documents. In response, the Petitioner has furnished the said details vide affidavit dated 24.2.2023.

10. The summary of the reasons for the time overrun, as furnished by the Petitioner, is as under:

Details of Time Over-run in respect of Unit-I

S N	MILE STONES	Schedule	Actual	Scheduled Completion Time from Zero Date, Months	Actual Completion Time from Zero Date, Months	Delay in Months from Schedule	Brief Reason for Delay	Supporting Doc and writeup
1.1	Civil package Start	01-Apr-15	01-Jul-15	7	10	3	Delay in possession of private land due to the protest of Villagers against the Land Acquisition process. Civil Work was started from 01-July- 2015 with the help of the Administration after completing initial site levelling and fencing work amid a protest by Villagers. (3 Months)	Annexure-P/15 (Pg-1138): Letter to DM Ambedkar Nagar dated 10.11.2014 for unauthorized ploughing and sowing in the Land acquired by NTPC for Tanda Stage-II. Annexure-P/16 (Pg-1140): -Letter to DM Ambedkar Nagar dated 15.11.2014 for unauthorized ploughing and seed sowing by sitting MP in the Land acquired by NTPC for Tanda Stage-II. Annexure-P/17 (Pg-1142): Letter to DM Ambedkar Nagar dated 24.12.2014 & 16.01.2015 for unauthorized ploughing and seed sowing by villagers in the Land acquired by NTPC for Tanda Stage-II and hindrance created for project work. Annexure-P/18 (Pg-1145): Letter to Principal Secretary Energy, Govt of UP from ED (NTPC) dated 6.1.2015 to maintain Law and Order in the Project area against hindrance created by people by deploying Police and PAC at the project site.



1.2	Civil Package COMPL N	01- Aug- 18	01- Mar- 19	47	54	7	<p>Delay in Possession of Govt (Abadi) Land. Civil Work was started from 01 July 2015; however, work did not progress in a scheduled manner due to agitation and protests by Villagers.</p> <p>(10 Months)</p>	<p>Delay in Physical Possession of Abadi Land:</p> <p>-Annexure-P/22, P/26, P/27 (Pg-1210, 1219, 1220): Delay in Identification and evaluation of Home Stead Oustees (HSOs) and evaluation of their property by the Administration. (Letters dated 12.12.2014,</p> <p>-Annexure-P/24, P/29 (Pg-1217, 1224): Delay in appointment of Special Land Acquisition Officer (SLAO) by Admin and his frequent Transfer</p> <p>-Annexure-P/25 (Pg-1218): Letter to Admn to vacate & remove Permanent houses/tube wells etc.</p> <p>-Annexure-P/28, P/30, P/31, P/32 (Pg-1221,1226,1229,1231): Delay in disbursement of One Time Settlement (OTS) to HSOs by Administration</p>
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1. 2	Civil Package COMPL N	01- Aug- 18	01- Mar- 19	47	54	7	Delay in physical possession of Land due to the Supreme Court Stay Order in a Litigation filed by some of the villagers against Land Acquisition. (5 Months)	Delay in physical possession of the Land due to the Supreme Court Order in the Litigation filed against the Land Acquisition -Annexure-P/33 (Pg-1232): Dismissal of Writ Petition by Allahabad High Court dated 24.11.2015 -Annexure-P/34 (Pg-1255): Supreme Court granted Stay on High Court Order on 05.01.2016 -Annexure-P/35, P/36 (Pg-1257, 1260): Newspaper Clippings on Villagers' Protest after SC Stay Order -Annexure-P/37 (Pg-1262): SC vacated stay dtd 10.05.2016 -Annexure-P/38, P/39 (Pg-1265, 1266): Letter dtd 6.9.16 & 16.11.16 to Admin for Protest an hindrance created by villagers against project work. -Annexure-P/40 (Pg-1267): Villagers letter dated 26.04.2017 to district administration to discontinue the project activities -Annexure-P/42 (Pg-1279): SC vide order dtd 26.07.2017 dismissed all matters in Land Acquisition -Annexure-P/43, P/44, P/45 (Pg-1281, 1283, 1284): Communication dtd 17.11.17, 20.1.18, 10.10.18 with Administration regarding physical possession of Land in AHP, CHP areas
							Delay due to Heavy Rains during the months of July to Sept. (4 Months)	Delay caused by Heavy Rainfall in the months of July-Sept -Annexure- P/46 (Pg-1287): Rainfall data along with a colored picture of the plant area flooded with heavy rains.



							Delay caused by non-availability of Sand due to the Ban on Sand Mining by the Hon'ble NGT and further ban by the Allahabad High Court. (12 Months)	Delay caused by non-availability of Sand due to Ban on Sand Mining: Annexure-P/47 (Pg-1390) : NGT order dtd 13.01.2015 banning sand mining Annexure-P/48 (Pg-1408) : Allahabad HC order dtd 29.02.2016 banning minor minerals (sand) Annexure-P/49 (Pg-1411) : Bihar Govt order dtd 23.08.17 banning sand mining during monsoon season Annexure-P/50 (Pg-1412) : Govt of UP vide order dtd 22.04.17 allowed resumption of sand mining through E-Permit. Annexure-P/51, P/52 (Pg-1419, 1425) : Orders at District level for E-Auctioning of sand during May-June 2017 Annexure-P/53 (Pg-1443) : Ban of sand mining during Monsoon
2	BOILER ERECTION START	01-Nov-15	24-Feb-16	14	17	4	1. Late start by 4 months due to non-availability of front due to delay in Start & Completion of Civil Work due to reasons mentioned at SI No-1. #. Boiler erection started after the necessary front was made available to start the work after the readiness of the Civil Work.	#Docs as mentioned at SI No-1.1 & 1.2
3	TG ERECTION START	01-Jan-17	01-Oct-17	28	37	9	1. Late start by 9 months due to non-availability of front due to delay in Start & Completion of Civil Work due to reasons mentioned at SI No-1. # TG erection started after the necessary front to start the work was available after the readiness of Civil Work.	#Docs as mentioned at SI No-1.1 & 1.2



4	BOILER LIGHT UP	01-Feb-18	31-Dec-18	41	52	11	<p>1.Delay from schedule by 11 Months on account of delay in Boiler Erection Completion.</p> <p>2.Boiler Erection start was delayed by 4 months due to the reason mentioned at SI No-2.</p> <p>2. Further delay of 7 months due to delay in Civil work completion on account of sand ban and heavy rains.</p> <p># Boiler Lightup requires completion of Boiler Mechanical Erection. Initial Light up done with Oil without the requirement of Coal Firing.</p>	#Docs as mentioned at SI No-1.1 & 1.2
5	STEAM BLOWING COMPLN	01-May-18	05-May-19	44	56	12	<p>Delay from schedule by 12 Months due to 1. delay of 11 months on account of delay in completion of boiler light up due to reasons mentioned at SI no-4.</p> <p>2. Further Delay of 1 month on account of delay in Boiler Mechanical Erection work due to delay in Civil works on account of sand mining ban, heavy rains.</p> <p># Boiler Steam blowing was carried out only after completion of all TG and Boiler Pressure piping erection and completion of the cleaning up process of all pressure part piping.</p>	#Docs as mentioned at SI No-1.1 & 1.2
6	TG OIL FLUSHING COMPLN	01-Mar-18	01-Sep-18	42	48	6	<p>1.Delay from schedule by 6 Months due to late start of TG Erection by 9 Months as per reasons given at SI No-3. However, overall Delay was limited to 6 months due to round-the-clock working and the expertise of the Petitioner in Project Management.</p>	#Docs as mentioned at SI No-1.1 & 1.2



7	CHP Readin ess	01- Oct- 18	01- Jun- 19	49	57	8	<p>1.Delay of 8 months from its schedule due to a late start by 16 months on account of the Delay in Physical possession of land.</p> <p>2.The overall delay was restricted to 8 months only to match the full load operation of the plant on coal firing.</p>	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Docs Same as mentioned at SI No-1.1</p> <p>Delay in physical possession of Land due to the Supreme Court Order in the Litigation filed against Land Acquisition (5 months) -Docs Same As mentioned at SI No-1.3</p> <p>Delay in Physical Possession of Abadi Land (12 Months) due to protest by Villagers in Vacating Houses from the Land in the CHP Area: -Docs same as mentioned at SI No1.2, -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment of property and the number of left out HSOs in CHP Area land</p>
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8	AHP Readiness	01-Dec-18	01-Aug-19	51	59	8	<p>1.Delay of 8 months from its schedule due to a late start by 20 months on account of the Delay in Physical possession of land.</p> <p>2.The overall delay was restricted to 8 months only to match the full load operation of the plant on coal firing.</p>	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Same As mentioned at SI No-1.1</p> <p>Delay in physical possession of Land due to the Supreme Court Order in the Litigation filed against Land Acquisition (5 Months) -Same As mentioned at SI No-1.3</p> <p>Delay in Physical Possession of Abadi Land (12 Months) due to protest by Villagers in Vacating Houses from Land in AHP Area: -Docs same as mentioned at SI No1.2, and -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment property and the number of left out HSOs in the CHP Area</p>
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9	Railway siding	01-Jun-18	30-Jun-19	45	58	13	<p>1.Delay of 13 months from its schedule due to a late start by 25 months on account of the Delay in Physical possession of land.</p> <p>2.The overall delay was restricted to 8 months only to match the full load operation of the plant on coal firing.</p>	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Same As at SI No-1.1</p> <p>Delay in physical possession of the Land due to the Supreme Court Order in the Litigation filed against the Land Acquisition -Same As at SI No-1.3</p> <p>Delay in Physical Possession of Abadi Land (17 Months) due to protest by Villagers in Vacating Houses: -Docs attached as at SI No 1.2, and -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment of property and the number of left out HSOs in the CHP Area land -Annexure-P/45 (Pg-1284): MOM dtd 10.10.2018 with Principal Secretary, Energy UP for physical possession of Land lying in Railway Siding Area</p>
10	COMM-G-FULL LOAD OPERATION	01-Sep-18	14-Sep-19	48	60	13	<p>1.Delay from sch by 13 Months due to delay of 12 months in Boiler Steam Blowing Completion for reasons mentioned at SI No-5.</p> <p>2.Further Delay of 1 month on account of Heavy Rainfall in the months of July to Sept.</p>	#Docs as mentioned at SI No-1.1 & 1.2



11	COD	10-Jan-19	07-Nov-19	52	62	10	1.Delay from sch by 10 Months due to delay of 13 months in achieving Full load Operation for reasons mentioned at SI No-10. 2.However, overall delay in COD was limited to 10 Months only due to Time optimized by round the clock working	#Docs as mentioned at SI No-1.1 & 1.2
	Unit-I COD	52 months	62 months					

Details of the Time Overrun in respect of Unit-II

SN	MILE STONES	Schedule	Actual	Scheduled Completion Time from Zero Date, Months	Actual Completion Time from Zero Date, Months	Delay in Months from Schedule	Brief Reason for Delay	Supporting Doc and Writeup
1.1	Civil package Start	01-Aug-15	01-Jun-16	11	21	10	1. Delay in possession of private land due to the protest of Villagers against the Land Acquisition process. (3 Months)	Annexure-P/15 (Pg-1138): Letter to DM Ambedkar Nagar dated 10.11.2014 for unauthorized ploughing and sowing in the Land acquired by NTPC for Tanda Stage-II. Annexure-P/16 (Pg-1140): Letter to DM Ambedkar Nagar dated 15.11.2014 for unauthorized ploughing and seed sowing by sitting MP in the Land acquired by NTPC for Tanda Stage-II. Annexure-P/17 (Pg-1142): Letter to DM Ambedkar Nagar dated 24.12.2014 & 16.01.2015 for unauthorized ploughing and seed sowing by villagers in the Land acquired by NTPC for Tanda Stage-II and hindrance created for project work. Annexure-P/18 (Pg-1145): Letter to Principal Secretary Energy, Govt of UP from ED (NTPC) to maintain Law and Order in the Project area against hindrance created by people by deploying Police and PAC at the project site.



						<p>Delay in physical possession of Land due to Supreme Court Order in Litigation filed against Land Acquisition, (Jan-16 to May-16) (5 Months)</p>	<p>Delay in physical possession of Land due to the Supreme Court Order in the Litigation filed against the Land Acquisition</p> <p>-Annexure-P/33 (Pg-1232): Dismissal of Writ Petition by Allahabad High Court dtd 24.11.2015</p> <p>-Annexure-P/34 (Pg-1255): Supreme Court granted Stay on High Court Order on 05.01.2016</p> <p>-Annexure-P/35, P/36 (Pg-1257, 1260): Newspaper Clippings on Villagers' Protest after SC Stay Order</p> <p>-Annexure-P/37 (Pg-1262): SC vacated stay dtd 10.05.2016</p> <p>-Annexure-P/38, P/39 (Pg-1265, 1266): Letter dtd 6.9.16 & 16.11.16 to Admin for Protest on hindrance created by villagers against project work.</p> <p>-Annexure-P/40 (Pg-1267): Villagers letter dated 26.04.2017 to district administration to discontinue the project activities</p> <p>-Annexure-P/42 (Pg-1279): SC vide order dtd 26.07.2017 dismissed all matters in Land Acquisition</p> <p>-Annexure- P/43, P/44, P/45 (Pg-1281, 1283, 1284): Communication dtd 17.11.17, 20.1.18, 10.10.18 with Administration regarding physical possession of Land in AHP, CHP areas</p>
						<p>3. Delay due to Heavy Rains during July to Sept 2015 (2 Months)</p>	<p>Delay caused by Heavy Rainfall in the months of July-Sept 2015</p> <p>-Annexure- P/46 (Pg-1287): Rainfall data along with a coloured picture of the plant area flooded with heavy rains.</p>
						<p>4. Delay in Possession of Govt (Abadi) Land (10 Months)</p>	<p>Delay in Physical Possession of Abadi Land:</p> <p>-Annexure-P/22, P/26, P/27 (Pg-1210, 1219, 1220): Delay in Identification and evaluation of Home Stead Oustees (HSOs) and evaluation of their property by the Administration</p> <p>-Annexure-P/24, P/29 (Pg-1217, 1224): Delay in appointment of SLAO by Admin and his frequent Transfer</p> <p>-Annexure-P/25 (Pg-1218) : Letter to Admn to vacate & remove Permanent houses/tube wells etc.</p> <p>-Annexure-P/28, P/30, P/31, P/32 (Pg-1221, 1226, 1229, 1231): Delay in disbursement of One Time Settlement (OTS) to HSOs by Administration</p>



1. 2	Civil Packag e Compln	01- Dec-18	31- Dec-19	51	64	13	<p>1. Delay in Possession of Govt (Abadi) Land (parallel with Ban on Sand Mining till Aug-2016) (10 Months)</p> <p>1. Delay due to Heavy Rains (4 Months)</p> <p>1. Delay caused by non-availability of Sand due to the Ban on Sand Mining by the Hon'ble NGT and subsequently by the Hon'ble Allahabad High Court. (12 Months)</p>	<p>Delay in Physical Possession of Abadi Land : -Annexure-P/22, P/26, P/27 (Pg-1210, 1219, 1220): Delay in Identification and evaluation of Home Stead Oustees (HSOs) and evaluation of their property by the Administration -Annexure-P/24, P/29 (Pg-1217, 1224): Delay in appointment of SLAO by Admin and his frequent Transfer -Annexure-P/25 (Pg-1218): Letter to Admn to vacate & remove Permanent houses/tube wells etc. -Annexure-P/28, P/30, P/31, P/32 (Pg-1221, 1226, 1229, 1231): Delay in disbursement of One Time Settlement (OTS) to HSOs by Administration</p> <p>Delay caused by Heavy Rainfall in the months of July-September -Annexure- P/46 (Pg-1287): Rainfall data along with a coloured picture of the plant area flooded with heavy rains. Total Delay on Account of Heavy Rainfall Claimed 4 months</p> <p>Delay caused by non-availability of Sand due to the Ban on Sand Mining: Annexure-P/47 (Pg-1390): NGT order dtd 13.01.2015 banning sand mining Annexure-P/48 (Pg-1408): Allahabad HC order dtd 29.02.2016 banning minor minerals (sand) Annexure-P/49 (Pg-1411) : Bihar Govt order dtd 23.08.17 banning sand mining during monsoon season Annexure-P/50 (Pg-1412): Govt of UP vide order dtd 22.04.17 allowed resumption of sand mining through E-Permit. Annexure-P/51, P/52 (Pg-1419, 1425): Orders at the District level for E-Auctioning of sand during May-June 2017. Annexure-P/53 (Pg-1443): Ban of sand mining during Monsoon season as per MOEFF&CC Guidelines from 15th June to 30th Sept, 2017</p>
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2	Boiler Erection Start	01-May-16	27-Sep-17	20	37	17	<p>1. Late start by 17 months due to non-availability of front due to delay in Start & Readiness of Boiler Civil Work as per reasons mentioned at SI No-1.</p> <p>(#Boiler erection started after the necessary front was made available to start the work after the readiness of Civil Work.)</p>	* Docs for delay in Land Possession, Non-Availability of Sand & Heavy Rainfall as mentioned at SI No-1.1 & 1.2
3	TG Erection Start	01-Jul-17	01-Dec-18	34	51	17	<p>1. Late start by 17 months due to non-availability of front due to delay in Start & Readiness of TG Area Civil Work as per reasons mentioned at SI No-1.</p> <p>(#TG erection started after the necessary front was made available after the readiness of Civil Work.)</p>	* Docs for delay in Land Possession, Non-Availability of Sand & Heavy Rainfall as mentioned at SI No-1.1 & 1.2
4	Boiler Light Up	01-Aug-18	28-Oct-20	47	74	27	<p>1.Delay from the schedule by 27 Months due to the delay in the completion of the Boiler Erection on account of:</p> <ul style="list-style-type: none"> -Late start of Boiler Erection work by 17 months as given at SI No-2. -Late completion of Boiler erection by work due to delay in Completion of Civil work, 6 months on account of Sand Ban & Heavy Rains. <p>2.Further delay due to stoppage of work on account of the spread of the Corona Wave-I (6 months)</p> <p>(#Boiler Light required completion of Boiler</p>	<p>#Docs for Delay in Civil Work Completion Same as mentioned at SI no-1.1 & 1.2</p> <p>#Docs for Delay on account of Corona Wave-I:</p> <ul style="list-style-type: none"> -Annexure-P/54 (Pg-1446) : Imposition of Lockdown dtd 22.03.2022 -Annexure-P/55, 58, 59 (Pg-1450, 1464, 1500): MHA Notification dtd 24.03.20, 15.4.20, 01.5.20 & 17.5.20 regarding Corona Lockdown. -Annexure-P/56 (Pg-1457) : Notification for Suspension of Railway & Air services -Annexure-P/57 (Pg-1462): Ministry of Labour Notification for Labourers leaving the workplace -Annexure-P/60 (Pg-1524): Ministry of Finance , GOI OM dtd 19.02.20 and 13.05.20 for considering Corona pandemic under Force Majeure clause -Annexure-P/61 (Pg-1527): Agencies Letter for invoking Force Majeure Clause due to Lockdown on account of the Corona Pandemic



5	Steam Blowing Completion	01-Nov-18	08-Feb-21	50	77	27	<p>1.Delay from the schedule by 27 Months due to the delay in the completion of the Boiler Erection on account of</p> <p>-Late start of Boiler Erection work by 17 months as given at SI No-2.</p> <p>-Late completion of Boiler erection by work due to delay in Completion of Civil work, 6 months on account of Sand Ban & Heavy Rains.</p> <p>2.Further delay due to stoppage of work on account of the spread of the Corona Wave-I (6 months)</p>	<p>#Docs for Delay in Civil Work Completion Same as mentioned at SI no-1.1 & 1.2</p> <p>#Docs for Delay on account of Corona Wave-I:</p> <p>-Annexure-P/54 (Pg-1446): Imposition of Lockdown by PM of India dtd 22.03.2022</p> <p>-Annexure-P/55, 58, 59 (Pg-1450, 1464, 1500): MHA Notification dtd 24.03.20, 15.4.20, 01.5.20 & 17.5.20 regarding Corona Lockdown.</p> <p>-Annexure-P/56 (Pg-1457): Notification for Suspension of Railway & Air services</p> <p>-Annexure-P/57 (Pg-1462): Ministry of Labour Notification for Labourers leaving the workplace</p> <p>-Annexure-P/60 (Pg-1524): Ministry of Finance, GOI OM dtd 19.02.20 and 13.05.20 for considering Corona pandemic under Force Majeure clause</p> <p>-Annexure-P/61 (Pg-1527): Agencies Letter for invoking Force Majeure Clause due to Lockdown on account of the Corona</p>
6	TG Oil Flushing Completion	01-Aug-18	29-Jan-20	47	65	18	<p>1.Delay from schedule by 18 Months due to late start of TG Erection by 17 Months due to reasons of delay in Civil works mentioned at SI No-1&3.</p> <p>2.Further delay of 1 month due to delay in Completion of TG mechanical erection work on account of Heavy Rains in the months of July and September and delay in ongoing Civil work due to sand ban and Heavy rains</p>	<p>#Docs for Delay in Civil Work Completion Same as mentioned at SI no-1.1 & 1.2</p>



7	CHP Readiness	01-Apr-19	01-Feb-20	55	65	10	<p>1. Delay of 10 months from its schedule due to a late start by 16 months on account of the Delay in Physical Land possession.</p> <p>(#The overall delay was restricted to 8 months only to match the full load operation of the plant on coal firing.)</p>	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Same As at SI No-1.1</p> <p>Delay in physical possession of the Land due to the Supreme Court Order in the Litigation filed against the Land Acquisition -Same As at SI No-1.3</p> <p>Delay in Physical Possession of Abadi Land (13 Months) due to a protest by Villagers in Vacating Houses from Land in the CHP Area: -Docs attached as at SI No1.2, -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP/AHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment of property and the number of left out HSOs in the CHP/AHP Area land</p>
8	AHP Readiness	01-Jun-19	01-Mar-20	57	66	9	<p>1. Delay of 9 months from its schedule due to late start by 20 months on account of the Delay in Physical Land possession (#The overall delay was restricted to 9 months only to match with the full load operation of the plant on coal firing.)</p>	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Same As at SI No-1.1</p> <p>Delay in physical possession of the Land due to the Supreme Court Order in the Litigation filed against the Land Acquisition -Same as at SI No-1.1</p> <p>Delay in Physical Possession of Abadi Land (17 Months) due to protest by Villagers in Vacating Houses from Land in AHP Area: -Docs attached as at SI No1.1, and -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP/AHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment of property and the number of left out HSOs in CHP/AHP Area land</p>



9	Railway siding	01-Dec-18	30-Mar-20	51	67	16	1. Delay of 16 months from its schedule due to a late start by 25 months on account of the Delay in Physical Land possession (#The overall delay was restricted to 16 months only to match with the full load operation of the plant on coal firing.)	<p>Delay in possession of private land due to the protest of Villagers against the Land Acquisition process (3 Months): -Same as at SI No-1.1</p> <p>Delay in physical possession of Land due to the Supreme Court Order in the Litigation filed against Land Acquisition (5 Months) -Same as at SI No-1.1</p> <p>Delay in Physical Possession of Abadi Land (17 Months) due to protest by Villagers in Vacating Houses: -Docs attached as at SI No1.1, and -Annexure-P/43 (Pg-1281): Letter to Admin dtd 17.11.2017 for vacation of houses lying in the CHP Area -Annexure-P/44 (Pg-1283): Letter to Admin dtd 20.01.2018 for assessment property and the number of left out HSOs in the CHP Area land -Annexure-P/45 (Pg-1284): MOM dtd 10.10.2018 with Principal Secretary, Energy UP for physical possession of Land lying in Railway Siding Area</p>
10	Commissioning-Full Load Oper	01-Mar-19	27-Mar-21	54	79	25	1. Delay from the schedule by 25 Months due to a delay of 27 months in the Boiler Steam Blowing Competition due to reasons mentioned at SI	#Docs for Delay in Boiler Steam Blowing Completion: Same as mentioned at SI No-5



11	COD	10-Jul-19	01-Jul-21	58	82	24	1.Delay from schedule by 24 Months as Full Load Operation was delayed by 25 months from schedule due to reasons mentioned at SI No- 10. 2.Further Delay on account of the Corona Pandemic Wave-II (2 months)	#Docs for Delay in achieving COD : Same as mentioned at SI No-10 #Docs for Delay on account of Corona Wave-II: -Annexure-P/62 (Pg-1559) : MHA Guidelines dated 23.03.2021 on Corona Second Wave of Test, Track and Treat w.e.f. 1.4.2021 -Annexure-P/63 (Pg-1568): Weekend Corona Curfew Order by Gov of UP dtd 16.04.2021 -Annexure-P/64 (Pg-1571) : Media Reports for rising Corona cases -Annexure-P/65, P/66 (Pg-1576, 1578): Govt of UP order for Corona Curfew Extension till 31.05.2021 -Annexure-P/67 (Pg-1585): Data of Corona Casualties in India -Annexure-P/68 (Pg-1586): Letters from agencies for invoking of Force Majeure clause -Annexure-P/69 (Pg-1600): MHA order dated 18.04.2021 for banning the use of Industrial Oxygen for its availability in medical use. -Annexure-P/70 (Pg-1603): Media Reports for normalization of use of Industrial Oxygen from 17.06.2021
	Unit-II COD	58 month	82 Month					



11. We now proceed to examine the aforesaid reasons for the time overrun in the declaration of COD of the units as stated below:

A. The Project is a green field project

12. The Petitioner has pointed out that the present project is a greenfield project and in support of the same, submitted the following:

(a) The existing Tanda Stage-I station comprises of 4x110 MW subcritical units. It is a takeover project from the erstwhile UPSEB. The facilities, tools, and tackles, etc., available at the site were commensurate with these small units and couldn't be used for installing supercritical units at the Station.

(b) The technology, spares, and common facilities, including the coal stockyard for both stages, are independent. The main plant areas, like TG hall, Unit control rooms, etc., are entirely independent. As the instant station has supercritical units, the manpower with the competence to operate these units is also independent.

(c) Further, the experience and infrastructure such as stores, building etc. available at the existing stage could not be utilized in the project as the space and infrastructure required was much more than available in the existing project, which was under operation from long time even before the date of takeover of the existing station. Further, about 80% of the additional land has been acquired for the station (Tanda-II).

13. The Respondent UPPCL submitted that the issue of whether the generating station is a greenfield or a brownfield project is determined at the inception stage, when the approval is granted by the Appropriate authority (CCEA/ MOEFCC/CEA). It has been submitted that the Petitioner is required to submit a copy of the approval to substantiate its claim that this Project is a greenfield project and not a brownfield project. In response, the Petitioner submitted that the present Project has been considered as a greenfield project by the Board of the Petitioner Company, while approving the Investment Approval. The Petitioner has, however, furnished a certified true copy of the relevant extract of the Investment approval, in support of its claim.

14. The matter has been considered. We note that the Board of the Petitioner Company is the competent authority for the Investment Approval (IA) of the Project, and



it is observed that the Project has been considered as a greenfield project in the said IA. From the various facts/submissions of the Petitioner, we are convinced that the present Project is a new generating station/greenfield project, and is not an expansion project.

B. Delay due to Land Acquisition (period affected from zero date i.e, 10.9.2014 to 1.7.2017-1025 days)

15. The Petitioner was granted in-principle approval for the availability of 1000 acres of additional land as provided by the State Government of UP (Govt of UP) for the Project *vide* Letter dated 13.6.2007. Out of the said land, about 230 acres of land available with Tanda TPS Stage-I, was to be used for the present Station, and the remaining 770 acres (200 acres of the land for main plant, including some portion/ patches of land for Railway siding within the main plant area and 570 acres for ash dyke & ash pipeline corridor) of additional land was required for the Station. The Land Acquisition process started much before (about 7 years) the Investment Approval (10.9.2014) of the Project. Out of 770 acres of the land, about 670 acres were Private land and about 100 acres were Government land, which included about 25 acres of Abadi land.

(i) Delay in the acquisition of Private Land and Law & order issues (period affected-from zero date, i.e., 10.9.2014, to 15.6.2015- 278 days)

16. The Petitioner has submitted the following reasons for the delay on account of the acquisition of Private Land:

- i. For acquiring the land, compensation rate @ Rs.39 lakh/hectare was offered by the District Magistrate (DM), Ambedkar Nagar to the villagers, which was returned by the Commissioner, Faizabad, on 13.4.2011 to reconsider the same, in view of the demand by the villagers for an increase in the rate. Accordingly, on 13.4.2011, the DM, Ambedkar Nagar constituted a committee for fixing of the land rate at District as well as Tehsil levels, wherein, the committee offered Rs.43 lakh/hectare, based on the maximum market rate of land transaction, during the previous three years in a meeting dated 10.5.2011, against a circle rate of Rs.14 lakh/hectare w.e.f. 1.8.2010, which was also declined by the villagers.
- ii. After many follow-ups by the Petitioner, another meeting was convened on 18.12.2011, in which an enhanced compensation rate @ Rs 53 lakh/hectare was



recommended by the DM to the villagers, and the same was agreed upon by the villagers/ landowners. The said compensation was approved by the Commissioner, Faizabad vide its letter dated 9.3.2012, i.e., almost two and a half years before the Investment Approval.

- iii. Further, w.e.f. 8.7.2012, the circle rate for the Ambedkar Nagar region was enhanced from 9% to 16%, which led to the villagers protesting and demanding increased compensation. In view of this situation, a meeting of the Sub-divisional committee was called on 9.7.2012, under the chairmanship of the SDM, Tanda. In the said meeting, the enhanced compensation rate @ Rs 56 lakh/hectare was recommended in place of an earlier agreed compensation rate @ Rs 53 lakh/hectare. The recommendation of an enhanced compensation rate @ Rs 56 lakh/ hectare was approved by the Commissioner, Faizabad, vide its letter dated 24.7.2012.
- iv. The signing of the Karars Patras (Agreement)/ Rajinama (Consent letter) commenced in July 2012, in accordance with UP Karar Niyamavali 1997. The compensation amount against the private land, as decided by the administration, was deposited with the State of UP by the Petitioner on 9.8.2012. Legal possession of the land was taken on 16.8.2012, and the mutation in the name of the Petitioner was done on 31.8.2012.
- v. Subsequently, the DM, Ambedkar Nagar, declared the award on 26.6.2013, with the efforts of the local administration, who largely completed the process of vacation and handing over of the physical possession of private lands in September 2014. Accordingly, the Investment approval was accorded on 10.9.2014, and the main plant package was awarded in the month of September 2014.
- vi. However, out of a total of 1312 landowners, 1040 landowners accepted the compensation @ Rs 56 lakh per hectare, as agreed by all the parties, but a group of villagers (landowners of land in the main plant area) filed Writ Petitions against the land acquisition process before the Hon'ble Allahabad High Court.
- vii. The landowners were also creating hindrances to the project activities, such as Concertina/coil fencing of the main plant area. The Petitioner vide letter dated 10.11.2014, intimated the DM, Ambedkar Nagar, about the hindrances caused by the landowners and protests by villagers at the site. On 15.11.2014, the Petitioner wrote another letter to the DM, Ambedkar Nagar, about the stoppage of the execution work by a Political leader, who joined the farmers and started the ploughing work with a tractor and sowed seed in the main plant area.
- viii. After continuous follow-up with the local administration, the site levelling work could only be started on 27.11.2014 in the main plant area, where the land was in physical possession of the Petitioner, i.e., excluding the land occupied and farmed by the agitating villagers. The importance of the site levelling work is stressed, since without it, no additional work on the land could be done. Therefore, the Petitioner



vide letters dated 24.12.2014 and 16.1.2015, intimated the DM, Ambedkar Nagar, and sought necessary action and deployment of police force at the project site.

- ix. On 6.1.2015, the Regional Executive Director, NTPC, wrote to the Principal Secretary Energy, Govt of UP for deployment of Police/PAC force at the Station for a minimum period of 6 months, for maintaining law and order at the project site.

17. The Respondent UPPCL submitted that due prudence needs to be taken in respect of the reasons for the time overrun.

Analysis

18. The matter has been considered. On a careful scrutiny of the documents furnished by the Petitioner in justification of the time overrun due to the delay in the acquisition of Private Land, the following facts emerge for consideration of the issue:

- a) The Petitioner was granted in-principle approval for the availability of 1000 acres of additional land by the Government of UP for the station vide letter dated 13.6.2007, which was much before the IA dated 10.9.2014.
- b) The Compensation for the private land was determined by a consultative process among the various stakeholders, and the compensation rate @ Rs 56 lakh/hectare was also approved by the Commissioner, Faizabad, vide letter dated 24.7.2012. The compensation amount was deposited with the State of UP by the Petitioner on 9.8.2012. Legal possession of the land was taken on 16.8.2012, and the mutation in the name of the Petitioner was done on 31.8.2012.
- c) The agitating villagers, along with their families, including women and children, created hindrances and forcibly stopped work whenever the Petitioner carried out the construction activities in the land, which was in the physical possession of the Petitioner. The threatening behavior of the locals instilled fear and panic among the workers, thereby affecting the project development.
- d) Due to the continuation of farming and the villagers' continued regular hindrances from the beginning, various enabling works at the site, such as site levelling, fencing, making approach roads & drains, and site infrastructure development works were hampered, and therefore, the subsequent activities of the project execution such as civil/ foundation works for the Main plant (i.e., SG & TG packages) were also delayed.
- e) On 6.1.2015, the Regional Executive Director, NTPC, wrote to the Principal Secretary Energy, Government of UP, for the deployment of Police force/PAC force at the station for a minimum period of 6 months for maintaining law and order at the project site. With the help of the administration, the enabling work, such as concertina/ coil fencing work, site levelling, fencing, making approach roads & drains, was completed



in the main plant area on the land, on which the Petitioner had physical possession in order to clear the way for the civil work to begin.

- f) As a result of villager's persistent opposition from the start of the acquisition process, and the subsequent delays in the various enabling works of the site, such as concertina/ coil fencing, site levelling, fencing, and the construction of approach roads and drains, the civil works of Unit-I main plant area, could only be started in July 2015, as against the scheduled start during April, 2015. The work in other areas of the main plant, excluding the Unit, CHP, AHP, and Railway siding, could not be started even by July 2015.

19. It is observed from the above that despite the payments of the requisite compensation by the Petitioner, after following the due process of Land Acquisition, due to the protest by the villagers to whom such payments were made, the enabling work of Project viz site levelling, fencing etc., could not be undertaken by the Petitioner. These activities are a prerequisite for the start of the Civil works, and therefore, the same could not be started, leading to the delay of the entire project by 91 days. In our considered view, the delay of 91 days on account of the acquisition of Private Land and the Law & Order issues was beyond the control of the Petitioner, for which the Petitioner cannot be held liable. Accordingly, on a prudence check, we condone the delay of 91 days under this head.

C. Delay in Possession of the Government Land (period affected -from zero date, i.e., 10.9.2014, to 29.8.2016 - 719 days)

20. The Petitioner has made the following submissions under this head:

- a. It was mutually agreed that the Government land of 100 acres (25 acres of *Abadi* land, 50 acres of *Sarvajanik Bhoomi*, and 25 acres of *Gram Samaj* land) would be transferred to the Petitioner immediately on payment of agreed compensation. Out of 25 acres Abadi land, about 13 acres land was in Main plant area and the balance 12 acres land was in the Ash Dyke area, in which some villagers/ farmers were staying with the permanent structures and also claimed that they were residing there for many years.
- b. As per section 117(6) of the U.P. Zamindari Abolition and Land Reforms Act 1950, the Petitioner was obligated to pay compensation to the State of UP, on account of



the development on the Government land. Accordingly, an amount of Rs.45.55 crore was agreed between the Petitioner and the State of UP as compensation for the 100 acres of the Government Land (*Abadi* land@ Rs.360 lakh/hect. and *Sarvajanik bhoomi* & *Gram Samaj* land@ Rs.32.70 lakh/ hectare) which handed over to the District Administration on 16.3.2013 and deposited in the Government treasury on 25.3.2013 as per letter dated 1.6.2016 from the Principal Secretary, State of UP to the DM, Ambedkar Nagar.

- c. After payment of the compensation of the *Abadi* land, mutation was declared in favour of the Petitioner on 24.4.2013, and the land under the category of *Sarvajanik bhoomi* and *Gram samaj* was vacated and their possession was handed over to the Petitioner. The physical possession of the remaining Govt. land, excluding the *Abadi* Land, was handed over to the Petitioner in a phased manner up to 31.8.2014, before the date of investment approval on 10.9.2014.
- d. Out of the 25 acres *Abadi* land, about 13 acres of land was in the Main plant area and the balance 12 acres of land was in the Ash Dyke area. The payment of the agreed compensation for the *Abadi* land was paid to the State of UP on 16.3.2013, and a request was made for compensation corresponding to the buildings/ houses/ permanent structures, which was to be passed on to the homesteads of *Abadi* Land. However, the villagers were also demanding compensation for the land (*Abadi*), which was under the ownership of the State of UP, besides the compensation for the permanent structures built on the *Abadi* land, which delayed the project construction activity of the Station.
- e. The process of the land acquisition of *Abadi* land and the handing over of the same to the Petitioner was getting delayed, and the project activities were being adversely affected due to the opposition of the Homestead Oustees (HSOs). The HSOs of the *Abadi* land were demanding compensation for the land, in addition to the compensation for the structures/ houses, which were illegally occupied by them. The district authorities, on continuous persuasion by the Petitioner, were trying to negotiate with the residents of the *Abadi* land. However, no resolution could be arrived at. The same was on account of the fact that *Abadi* land residents were not entitled to any land compensation by law, as the land title was in the name of the State of UP.
- f. On 5.3.2014, the Election Commission announced the dates for the General Elections 2014, and the Model Code of Conduct (MCC) came into force immediately and was operative till 16.5.2014 (i.e., announcement of result). During the period when the MCC was in force, no negotiation/ advancement could be done by the District Administration towards the *Abadi* land, and the whole process came to a standstill for about two and a half months. Subsequently, after the general elections and the declaration of the results thereof, the issue was immediately taken up with the District Administration, and regular follow-ups were done by the Petitioner.



- g. A meeting was convened on 12.12.2014, by the Commissioner, Faizabad, for the vacation and physical possession of the Abadi land to the Petitioner, in which the following decisions were made:
- a. Formula was worked out for additional Rehabilitation and Resettlement ("R&R") amount (over and above the already agreed amount of Rs 4.5 lakh per HSO in lieu of the Resettlement Colony as compensation for the loss of their houses/structures/assets).
 - b. The land loser in the Abadi land will receive a One-time Settlement (OTS) and it was decided that up to 200 sqm of the housing area per HSO (any male member of the family above the age of 18) is eligible for Rs 9 lakh and above 200 square meters of dwelling area, each HSO is entitled to Rs.11.5 lakh. The HSOs will have to leave their current location within 6 months of receipt of the OTS for the Abadi land and house/properties. OTS would be disbursed after joint certification by the Special Land Acquisition Officer (SLAO), the Tehsildar, Tanda, and a representative of the Petitioner that the property has been vacated.
 - c. Since the resumption of the Abadi land was done under the U.P. Zamindari Abolition & Land reforms Act 1950, vide the Commissioner, Faizabad Order dated 21.02.2013, it was decided by the State Authorities to consider the cut-off date for counting of HSOs on 21.2.2013. Due to the change in the cut-off date from 27.11.2008 (the date of publication of notification under Section 4 of the Acquisition Act) to 21.2.2013, the number of HSOs was increased from 702 to 1238. This delayed the process further.
 - d. Thereafter, for the disbursement of OTS of Abadi Land, ADM (Revenue) District Ambedkar Nagar issued a consequential order on 11.2.2015, directing the SLAO to comply with the directions of 12.12.2014, and hence, a delay of approximately two months was beyond the control of the Petitioner.
 - e. The Petitioner vide letter dated 19.2.2015 requested the DM, Ambedkar Nagar, to vacate and remove the permanent houses/tube wells, etc., lying in the acquired land of the main plant area, which were obstructing the site levelling work. In reply to the said letter, the ADM(Revenue), Ambedkar Nagar, vide letter dated 26.2.2015, directed the SDM Tanda to complete the evaluation of the properties and count of HSOs by a joint team of Forest Dept, PWD, Horticulture, and Jal Nigam.
 - f. The SDM (Tanda) vide letter dated 29.4.2015 directed all the concerned departments like the Forest Dept, PWD, Horticulture, and Jal Nigam, including the Block Development Officer, to start the process of assessment of properties from 1.5.2015. Further, the Petitioner, in the meeting chaired by the Principal Secretary Energy, State of UP, on 7.8.2015, held for resolving the issues coming in the Tanda Stage-II, raised the issue of delay in the physical possession of Abadi land. In the said meeting, it was mentioned that the value of the Abadi land may be given to the Landowners, in line with the in-principle resolution taken during the earlier meeting chaired by the Chief Secretary on 19.07.2014. The



Principal Secretary Energy, State of UP assured to resolve the issues in consultation with the Principal Secretary Revenue, State of UP.

- g. To expedite the process of Land acquisition of the Abadi land, a meeting was held on 21.9.2015 at NTPC Tanda, which was chaired by the SDM (Tanda), wherein the evaluation of properties, assessment of the number of HSOs in a family, inter alia, was emphasized. The Petitioner vide its letter dated 6.4.2016, requested the DM, Ambedkar Nagar to expedite the payment of compensation for the Abadi land to the landowners so that project work may be accelerated. It was also stated that the HSOs were impeding work due to the district administration's failure to pay compensation for the Abadi land.
- h. The Petitioner, vide its letter dated 20.5.2016, requested the State Administration for an early disbursement of the OTS amount to the HSOs of the Abadi land, which was already deposited by the Petitioner to the Government treasury on 25.3.2013. The Petitioner also raised the issue of the frequent transfer of SLAO in the said letter, due to which the process of disbursement of the OTS got delayed by about 8-9 months, since validating the paperwork and making the property assessments by the new SLAO took some time.
- i. Since there was no foreseeable resolution to the problem, the matter was escalated and discussed at the Cabinet meeting of the Government of UP. It was decided that the land compensation payment of Rs.36.85 crore (after accounting for compensation towards Sarvajanik Bhoomi and Gram Samaj land) paid by the Petitioner to the State of UP would be released to the Abadi land homeowners as a welfare package. Subsequently, the OM Ambedkar Nagar, vide letter dated 17.6.2016, raised a consolidated demand for Rs.166.22 crore (Rs.49.28 crore for cost of properties +116.94 crore for OTS of Abadi land) towards the cost of properties and OTS for the Abadi area to be taken in possession. The Petitioner had no other option except to agree to the enhanced OTS amount under the R&R plan for the Station.
- j. After putting in all the efforts, the Petitioner requested DM, Ambedkar Nagar vide letter dated 29.8.2016 for getting the physical possession of the Abadi land, which was in the name of the Petitioner.

21. The Respondent UPPCL has submitted that that due prudence needs to be taken in respect of reasons for time overrun.

Analysis

22. The submissions have been examined. The land to be acquired consisted of 100 acres of the Government land, which comprised 25 acres of Abadi Land, 50 acres of Sarvajanik Bhoomi, and 25 acres of Gram Samaj Land. As per section 117(6) of the U.P. Zamindari Abolition and Land Reforms Act 1950, the Petitioner was obligated to pay compensation to the State of UP, on account of the development on the Government land



and an amount of Rs.45.55 crore was agreed between the Petitioner and the State of UP as compensation for the 100 acres of Government land, with the following break-up:

- i. Abadi land @ Rs.360 lakh/hectare and
- ii. Sarvajanic bhoomi & Gram Samaj land @ Rs.32.70 lakh/hectare as demanded by the administration).

23. The Petitioner deposited the compensation for the Govt land in the Govt treasury on 25.3.2013, as per mutually agreed terms, and the mutation was declared in favour of the Petitioner on 24.4.2013. The compensation for the Abadi land consisted of the Land development cost and the value of permanent structures built on it. The homesteads of these Abadi lands were also demanding compensation for the Abadi land for which they were not entitled to, as the land title was in the name of the State of UP prior to takeover by the Petitioner. The issue with the acquisition of Government land was as under:

- (i) Homesteads were demanding compensation for the Abadi land;
- (ii) Evaluation of the properties of each Homesteads by the Govt departments; and
- (iii) Evacuation of the Homesteads Oustees (HSO) after the payment of requisite compensation, One Time Settlement (OTS) in lieu of their properties.

24. The evaluation of the properties by the Government department took time due to the following reasons:

- a) Delay in SLAO appointment and his frequent transfer led to a delay in the evaluation of properties by approx. 6 months.
- b) Due to a change in the cutoff date from 27.11.2008 (the date of publication of the notification under Section 4 of the Acquisition Act) to 21.2.2013, the number of HSOs was increased from 702 to 1238, and the task of evaluation of properties increased.
- c) The evaluation of the properties was a massive exercise, which was conducted by a joint team of the Forest Department, PWD, Horticulture, and Jal Nigam, including the Block Development Officer.

25. The homesteaders were not ready to evacuate their houses till compensation to their satisfaction was paid to them. They were protesting and not allowing the Petitioner to carry out the project work, even on the land on which the Petitioner had possession.



The issue of physical possession of the Abadi land was raised in the meeting chaired by the Principal Secretary, Energy, the State of UP on 7.8.2015, for resolving the issues coming in the Tanda Stage-II extension project, wherein the issue of delay of the physical possession of the Abadi Land was raised. To end the deadlock, the Government of UP in its cabinet meeting, decided that the land compensation payment of Rs.36.85 crore (after accounting for compensation towards Sarvajanik Bhoomi and Gram Samaj land) paid by the Petitioner to the State of UP, would be released to the Abadi land home owners as a welfare package. Subsequently, a consolidated demand for Rs . 166.22 crore (Rs . 49.28 crore for the cost of properties, Rs . 116.94 crore for OTS of Abadi Land) towards the cost of properties and OTS for the Abadi land was raised by the DM Ambedkar Nagar, vide letter dated 17.6.2016, and the same was paid by the Petitioner. After payment of the compensation, a major portion of the Abadi land was evacuated and handed over to the Petitioner on 29.8.2016.

26. Thus, the total period in the Land acquisition of the Abadi land took approximately 24 months from September 2014 to August 2016. However, the Petitioner has claimed the effective delay of 304 days in the Project execution, due to its impact on the delay in the start and completion of the Civil works of the Main plant, AHP, CHP, and Railway siding of both units. In our considered view, the delay caused in the project execution due to the delay in the possession of the Abadi Land was beyond the control of the Petitioner, and the Petitioner cannot be made responsible for the same. Accordingly, the delay of 304 days (over and above the delay of 91 days already condoned above due to the delay in the acquisition of Private Land and Law & order issues) has been condoned under this head.



**D. Litigations related to acquisition of private land and the consequent delay
(period affected 5.1.2016 to 30.5.2016 - 146 days)**

27. The Petitioner has submitted the following:

- (a) Writ Petitions (W.P. (C) 46 of 2013 & batch) were filed by land owners before the Hon'ble High Court of Allahabad, for quashing the notifications dated 27.11.2008 and 14.7.2010, by means of which the notifications have been issued under Section 17 of the Acquisition Act, by which, the land situated at Village Salahpur, Rajaour and Hasimpur, Tehsil Tanda, District Ambedkar Nagar was sought to be acquired by means of the impugned notifications for the purpose of the development/construction of the station. The Hon'ble High Court of Allahabad vide its judgement dated 24.11.2015 dismissed all the connected Writ Petitions.
- (b) Subsequently, an SLP No. 34428/2015 was filed by the Private landowners before the Hon'ble Supreme Court, wherein an Interim order dated 5.1.2016 granted a stay of the judgment dated 24.11.2015. In view of the interim order dated 5.1.2016, the villagers forcibly stopped the project works completely, including the areas where the work was in progress, as the land was in the possession of the Petitioner and demanded "status quo" as per the direction of the Hon'ble Supreme Court. In this regard, a meeting was called by the DM, Ambedkar Nagar on 20.1.2016 to interpret the order/direction of the Hon'ble Supreme Court, wherein, it was decided to get direction from the Legal department of the State of UP. Till then, it was decided that the status quo would be maintained by both parties. Accordingly, all the project activities came to a standstill immediately.
- (c) Subsequent to the legal opinion from the Legal Department of the Government of UP, the Petitioner tried to start the project work from 27.2.2016. However, a number of villagers, ladies & children reached the site and stopped the project work by threat of force. They started agitating & making slogans against the Petitioner.
- (d) On 10.5.2016, the Hon'ble Supreme Court, after realizing the legitimate action of the Petitioner, vacated its earlier order for 'status quo', and the project works could be started only after a halt for more than four months (from 5.1.2016 to 10.5.2016).
- (e) The Civil work of Unit-I Main plant (boiler and TG) could be restarted in the first week of June 2016, only after vacation vide SC order on 10.5.2016, as the subsequent remobilization time of one month was taken by the Civil agency. Further, pending final adjudication of the above matters by the Hon'ble Supreme Court, the work in the disputed land in Main plant area (in patches, CHP, AHP), Ash dyke area and Railway siding could not be commenced. However, Unit-II civil work (Boiler and TG) was started with the support of police and local administration from June 2016, where the physical possession of land was taken by the Petitioner.



- (f) The Petitioner, vide its letter dated 6.9.2016, intimated the State Administration that some villagers were obstructing the road for the project and were creating a hindrance to the project work. The Petitioner, vide its letter dated 16.11.2016, intimated the State Administration that as per the demand of villagers, the repair of the village road, spray of water on the road & two public toilets were started. However, despite the same, the villagers kept on obstructing the project activities and were creating a hindrance to the project work.
- (g) Despite the vacation of stay by the Hon'ble Supreme Court, the villagers (Petitioners in SLP (C) 34428 of 2015) continued to create hindrances at the project site. Further, the villagers wrote a letter dated 26.4.2017 to the District administration to discontinue the project activities. They had interpreted the order dated 10.5.2016 vacating the stay differently and stated that the Petitioner could not carry out constructions on lands over which they had physical possession prior to passing of the order dated 5.1.2016.
- (h) The villagers themselves mentioned in their affidavit dated 9.1.2017 that the Petitioner had the physical possession of some part of land only in two villages, namely Salahpur Rajour and Hasimpur (main plant area), while in the other seven villages (i.e., Ash dyke area, etc.), the villagers had the physical possession of the land and were carrying out agricultural activities. The Petitioner, vide its letter dated 7.6.2017, requested the DM, Ambedkar Nagar, to vacate four houses which were obstructing the project activities and were creating a hindrance to the project work.
- (i) Due to illegal physical possession of the land by the villagers in the areas where AHP and CHP sites were located, and the regular protest by them thereof, the works at AHP and CHP could not be started up till 1.5.2017. After a lot of follow-up by the Petitioner and with the help and support of the local administration and police force, the AHP & CHP area was vacated by displacement of the Project Affected Persons (PAPs) from these areas, and the physical possession of these areas was acquired. Subsequently, the works in CHP & AHP could be started only in May 2017 and July 2017, respectively.
- (j) The Illegal possession of the acquired land by the villagers caused the delay in the start of the Civil & erection activities of the CHP & AHP by 16 months and 20 months, respectively. However, the Petitioner used its project execution experience and worked round the clock (i.e., 3 shifts work) to make up for the delay and restricted the overall delay in CHP readiness to 10 months and for AHP by 9 months only. In view of the above, we note that despite the mitigating measures taken by the Petitioner, the delay in completion of the works could not be avoided and was beyond its control. Thereafter, the Hon'ble Supreme Court vide its judgement dated 26.7.2017 in SLP (C) 34428/2015 dismissed all the connected matters filed by the parties against the Petitioner.



28. The Respondent UPPCL has submitted that a prudence check may be done in respect of the reasons for the time overrun.

Analysis

29. The submissions have been examined., From the submissions of the Petitioner, it is observed that against the Hon'ble High Court of Allahabad order dated 24.11.2015 dismissing the connected Writ Petitions, the Private land owners/Villagers filed SLP before the Hon'ble Supreme Court, wherein, the Hon'ble Court vide interim order dated 5.1.2016 stayed the High Court order dated 24.11.2015. Further, on 10.5.2016, the Hon'ble Supreme Court vacated its earlier order and directed 'status quo' in the matter. During the period from 5.1.2016 to 10.5.2016, the landowners considered it their victory in the case and halted the project tooth and nail. Therefore, due to protests by landowners because of the stay order, the complete project work came to a standstill during the period from 5.1.2016 to 10.5.2016. The delay caused by the interim order dated 5.1.2016 till the vacation of the status quo order on 10.5.2016, works out to 126 days, which in our view was beyond the control of the Petitioner. Though the Petitioner claimed a delay of 146 days after including a period of 20 days for re-mobilization of workforce, we are inclined to condone the delay of 126 days, i.e., from 5.1.2016 to 10.5.2016 only.

E. Delay in Land Acquisition of Railway Siding Area/AHP/CHP (period affected - from zero date i.e., 10.9.2014 to 1-7-2017 -1025 days)

30. The Petitioner has made the following submissions:

- (a) For transportation of coal to the station, the existing Railway lines of Tanda TPS Stage-I station were envisaged to be extended. For the construction of the extended Railway Siding, some portions/ patches of land of Hasimpur village were to be acquired, which was to come within the main plant premises. Although the landowners of the Railway Siding area were paid the compensation amount as decided by the administration and agreed to by most of the villagers, however, some of these landowners filed the Writ Petitions before the Allahabad High Court (tagged with W.P. (C) 46 of 2013 as mentioned above).



- (b) The Petitioner informed the DM, Ambedkar Nagar vide letter dated 17.11.2017 that the Tehsil (Tanda) Administration made the payment to 356 landowners against the Abadi land and Properties, out of which, 183 landowners, have left their houses, while 173 landowners did not vacate the houses, even after getting the payment. Further, it was informed that there were 73 illegal houses still lying on the Petitioner's acquired land, which need to be vacated to start and expedite the work.
- (c) In response to the Petitioner's letter dated 17.11.2017, a meeting was called by the SDM (Tanda) on 20.11.2017, which was attended by the SLAO and ED (Tanda), besides other concerned, to take the necessary action. The Petitioner, vide a letter dated 20.1.2018, requested the DM, Ambedkar Nagar, to form a committee to assess the properties of the left-out landowners, in order to disburse the compensation to them.
- (d) Amidst the difficulty faced, the Petitioner was regularly taking up the matter with the District administration for vacation and handing over of the small patch (length 334 m & breadth 70 m) of land, which was lying under the Railway siding area. In spite of several efforts by the Local administration, the physical possession of the small patch of land lying under the Railway siding area could not be handed over to the Petitioner. In October 2018, a meeting was called by the Principal Secretary (Energy), State of UP, to review the issues pertaining to Land acquisition for the Project. The Principal Secretary (Energy) directed the DM, Ambedkar Nagar, to use the required police force to vacate the work area forcibly. Accordingly, with the help and support of the Administration and Police force, the physical possession of the portion of the land could be acquired only in the month of November 018.
- (e) Due to the delay in getting the physical possession of the Railway siding land, the civil work for the Railway siding was delayed by about 25 months from its scheduled start, which was planned in the month of June 2015. However, the Petitioner used its project execution experience and made all-out efforts to make up for the delay in the readiness of the Railway siding, which was critical for running the Unit at the desired full load with coal firing. The illegal possession of the acquired land by the villagers in some patches caused the delay in completion of the Railway siding work for Unit-I by approximately 15 months, which was completed in September 2019, against the scheduled completion date by July 2018.
- (f) The delay in the trial operation of Unit I caused the subsequent delay in the overall Unit I commissioning activities and the declaration of commercial operation of the said Unit. For the same reasons, the' readiness of the Railway siding for Unit-II got delayed from its scheduled completion by about 16 months. Subsequently, Unit-II trial operation was completed in March 2021.

31. The Respondent UPPCL has submitted that a prudence check shall be undertaken



in respect of the reasons for the time overrun.

Analysis

32. From the submissions of the Petitioner, the following points emerge:

(a) The landowners of land falling in the areas of CHP/AHP and Railway siding were also protesting against the land acquisition and were among those who chose to file Writ Petitions against Land acquisition before the Hon'ble Allahabad High Court.

(b) Even though the Abadi land vacation was completed in the Main plant area by October 2016, the issue of vacation of the Abadi land in the land parcel lying in the areas of AHP/CHP/Railway Siding was pending. The 173 landowners out of 356 landowners did not vacate their properties till 17.11.2017, in the areas of AHP/CHP/Railway Siding. The major portion of land for AHP/CHP/Railway Siding was taken in possession on 1.7.2017.

(c) The start of work of AHP/CHP & Railway Siding got delayed by 20 months, 16 months, and 25 months, respectively, from their schedule. The Petitioner has claimed a delay of 470 days in the commissioning of Unit-I, while no delay in Unit-II commissioning has been claimed on this count.

33. From the submission of the Petitioner, it is observed that the delay in land acquisition of AHP/CHP/Railway siding areas happened due to the (i) Delay in acquisition of Private Land and Law & order issues (ii) Delay in possession of the Government Land and (iii) Litigations related to Land acquisition. The principal reasons for delay in Land acquisition of AHP/CHP/Railway sidings are similar to those in the Main Plant areas. The Petitioner has claimed a total delay of 470 days, on account of the delay in Land acquisition of AHP, CHP, and Railway siding for Unit-I. Since the readiness of AHP/CHP & Railway siding is necessary for the commissioning of the Units, the delay on this count is condoned as the same is not attributable to the Petitioner. However, after excluding the overlapping period, the delay of only 306 days, between 29.8.2016 (last day considered for delay in acquisition of Abadi Land for Main plant) and 1.7.2017 (date on which a major portion of land for AHP/CHP/Railway siding was acquired) has been condoned towards the commissioning of Unit-I.



F. Delay due to excessive Rainfall

34. The Petitioner has furnished the following details with regard to the delay due to heavy rainfall:

(a) The Project area has smooth and fine cohesive soil, which has slippery properties. Due to this, during the rainy season, even the normal rain makes the movement of men & materials shifting from the storage yard to the site, and heavy problematic, resulting in construction being halted owing to inaccessible approach roads. The condition takes around 15 days to normalize, and that's after the Petitioner makes numerous measures on site, such as placing a thick layer of Moorum across the roads.

(b) The systems, such as draining equipment, etc., to cope with the rainfall were planned and deployed at the site, keeping in view the average rainfall at the project location. However, the continuous excess rainfall combined with the typical geological nature of the site resulted in flooding of the areas.

(c) Regulation 3(25) of the Tariff Regulations 2019 defines 'Force Majeure' as any event beyond the control of the generating company, which prevents it from completing the Project within the timelines envisaged in the Investment Approval. The Commission in the following cases admitted the delay caused by the heavy rainfall as a Force Majeure event and considered the delay to be beyond the control of the Petitioner and was not attributable to the Petitioner:

1. Order dated 29.04.2019 passed in Petition No. 74/GT/2017 [Para 32]
2. Order dated 05.04.2019 passed in Petition No. 142/GT/2016 [Para 14]
3. Order dated 14.03.2016 in Petition No. 205/GT/2013 [Para 25, 26]
4. Order dated 21.01.2014 passed in Petition No. 204/GT/2011

35. The Respondent UPPCL mainly submitted as under:

(a) The Petitioner considered the rainfall during the period from July to September 2013 and 2014 as a base, and compared the rainfall in the later years against this base of 90 mm, and this comparison is itself erroneous for the following reasons:

- i. Projects are designed based on the long-term highest rainfall in that period so that the chances of inundation are reduced. The Petitioner needs to compare the long-term highest rainfall in the region, based on which project is designed, to assess the impact of rainfall.
- ii. The rainfall during the years 2015, 2016, and 2017 was in the range of 250-300 mm, which indicated a probable drought during the years 2013 and 2014, and thus, not to be considered as base. The contention of the Petitioner for the time overrun of 255 days on account of excess rainfall may be rejected.

36. In response, the Petitioner has clarified that:



- (a) Rainfall comes within the ambit of 'Force Majeure' events as defined under Regulation 3 (25) of the 2019 Tariff Regulations. In this regard, the APTEL judgment dated 27.4.2011 in Appeal No. 72/2010 (MSPGCL v MERC & Ors) is to be relied upon, wherein APTEL laid down the principle for conducting a prudence check of time overrun and cost overrun of a Project.
- (b) Force Majeure events are uncontrollable factors which are covered under Regulation 22 (2) of the 2019 Tariff Regulations. The Commission in its order 670 dated 21.9.2015 in Petition No. 69/GT/2013 (tariff of Mauda STPS Stage-I) condoned the delay on account of heavy rainfall during the period from June 2013 to August 2013.

37. The Petitioner has also furnished the historical rainfall data for the last 10 years (2013-2023) in compliance with the letter dated 17.4.2023 and submitted the following:

- (a) The Project area has smooth and fine cohesive soil, which has slippery properties. Due to this, during the rainy season, even the normal rain makes the movement of men, heavy construction Machinery & Materials shifting from the storage yard to the site extremely problematic, resulting in construction being halted. Further, working under wet conditions is highly unsafe for the movement of men, materials, and machinery. Besides the direct impact of rain on halting the project work, there is a consequential delay on this count.
- (b) The APTEL vide its order dated 22.9.2022 in Appeal No. 61/2020 (NTPC v CERC & ors) has taken cognizance of the difficulty faced by heavy rains during the project construction and observed as under:

".....the rainfall and flooding had rendered the overall movement of heavy vehicles virtually impossible. The safety, security and reliability standards obliged the developer not to rush into achieving the COD as that would have put human life and public property to undue risk"

- (c) After the heavy rainfall, the condition takes up to 15 days to normalize, and that too after the Petitioner makes numerous measures on site. The condition at the work site can be easily understood by some of the photographs taken during those periods.

Analysis

38. The submissions have been considered. It is observed that the rain fall data as submitted by the Petitioner vide affidavit dated 12.4.2021 and the rainfall data submitted vide affidavit dated 30.6.2023 in compliance with the technical validation letter dated 17.4.2023 in an amended petition filed after COD of both units, are at variance with each



other. Moreover, the rainfall data as submitted has not been certified by the Indian Meteorological Department. As such, we are not inclined to consider the delay claimed on account of rainfall based on the submitted data.

G. Delay due to ban on Sand mining (period affected from 13.1.2015 to 30.9.2017- 991 days)

39. The Petitioner has submitted the following:

(a) The National Green Tribunal *vide* its order dated 13.1.2015, directed the States to stop giving permits for carrying on Sand mining. Further, directions were issued to the States to not permit any sand mining or mineral extraction on riverbed or otherwise, including for the existing mining lease right holders.

(b) Further, the Hon'ble Allahabad High Court *vide* its order dated 29.0.2016 in a Public Interest Litigation No. 7088 of 2016, directed to stop the excavation activity of mining also on the account of irregularity in the grant of mining lease.

(c) During the ban on sand mining in the State of U.P., as a contingency arrangement, sand was being arranged from the neighbouring state, i.e., Bihar (which is about 700 - 800 kms away). However, the Govt of Bihar, *vide* its letter dated 23.08.2017, banned the sand mining activities during the monsoon season (i.e., from 01 July to 30 September) and banned the export of sand to other States during the said period.

(d) The available quantity of sand was insufficient to continue with the routine civil activities in full swing, due to the aforementioned force majeure events. It was only in April 2017 that the State of UP, *vide* its letter dated 22.4.2017, allowed the resumption of mining and grant of mining permits, through the e-auctioning procedure as elaborated in the letter. After the letter 22.4.2017 enabling the resumption of mining on the grant of mining licenses through the e-Auction mechanism, the concerned District Magistrates (DM) organized committees to carry out the auctioning activity by the first week of May, 2017.

(f) Bids were invited by the Committees formed by the DMs of the respective districts for the grant of mining permits for the extraction of sand through E-auction. The bids were received between the end of May 2017 and mid-June 2017, after which the auctioning was done, and permits were granted for the extraction of the sand in different districts of the State of UP. Although the State of UP, attempted to expedite the grant of sand extraction permits through a transparent bidding process, the benefit of the same could not be realized by the end users, because the period of sand extraction was short-lived, due to the mining ban imposed by the MoEF&CC on the account of arrival of the rainy season, which runs from 15th June to 30th September, for the State of UP. The supplies of sand could be resumed after the end of the rainy season, and the required amount of sand could be supplied only by the



end of October 2017. Therefore, the grant of mining e-permits and the regularization of supplies took another six (6) months. The Petitioner could complete the minor/ left-out civil works, once the supply of sand was normalized in the month of November 2017, after several follow-ups with the District Administration.

(i) Due to the lack of sand, the civil works were delayed, causing the other project milestones that were dependent on Civil Works to be delayed. The effective delay in the overall execution of the Civil works on Unit-I Main Plant was approximately 12 months, whereas the same was approximately 15 months for Unit-II.

(j) The delay in the construction activities due to a shortage of sand was caused by a change in law/force majeure event, which was beyond the control of the Petitioner and squarely falls within the force majeure event prescribed under Regulation 3(25) of the 2019 Tariff Regulations. The Commission, after considering the difficulties faced due to the ban on sand mining, had condoned the delay on the account of the ban on sand mining in the following cases:

1. Order dated 6.12.2019 in Petition No. 197/GT/2017 [Para 14]
2. Order dated 8.1.2020 in Petition No. 199 /GT /2017 [Para 23]

(l) The APTEL, on 22.9.2022 in Appeal No. 61/2020 Para 10] observed that the cascading effect on the account of sand mining and rainfall is beyond the control of the Petitioner.

40. The Respondent UPPCL submitted that the Petitioner has considered the delay of 365 days on account of sand mining, based on the Commission's order dated 6.12.2019 in 197/GT/2017. It also submitted that the delay of 365 days for the period April 2016 to March 2017 may be mapped on the PERT chart to assess which activities were delayed and their impact on the project completion. In response, the Petitioner submitted that:

- a) The delay in the construction activity due to the shortage of sand caused by a change in law/force majeure events is highlighted in the amended Petition.
- b) The Petitioner had shared the bar chart highlighting the details of the delay on account of the force majeure & change in law events, in the declaration of COD along with the amended petition.

Analysis

41. We have examined the submissions. Regulation 3(25) of the 2019 Tariff Regulations defines Force Majeure as any event beyond the control of the generating company, which prevents it from completing the Project within the timelines envisaged in the Investment



Approval. The relevant portion is extracted below:

“(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*
- (b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or*
- (c) Industry wide strikes and labour disturbances having a nationwide impact in India; or*
- (d) Delay in obtaining statutory approval for the project except where the delay is attributable to project developer;”*

42. The Petitioner submitted that the non-availability of sand due to ban in mining in terms of the NGT order dated 13.1.2015 and the judgment dated 29.2.2016 of the Hon’ble Allahabad High Court, is an uncontrollable factor, which has caused delay in the declaration of COD of the Unit of the generating station. NGT vide its order dated 13.1.2015, while directing the States to stop giving permits for carrying sand mining, observed as under:

“In the meanwhile, no state shall permit carrying on of sand mining or minor mineral extraction on riverbed or otherwise without the concerned person obtaining environmental clearance from the competent authority.”

43. Similarly, the Hon’ble Allahabad High Court in its order dated 29.2.2016 observed as under:

“For the aforesaid reasons, we direct that until the next date of listing, no excavation activity in respect of minor minerals shall be carried out in pursuance of the leases which have been granted to the private parties.”

44. It is observed from the above orders, that the extraction activity in respect of minor minerals was directed to be stopped, which, in our view, had affected the supply of sand, which is the essential raw material used in the Civil construction of the project. The Petitioner has tried to arrange the sand from alternative avenues, but the same could not



last long till the final resumption of sand supply. Consequent upon this, the civil works of major packages in the main plant and the balance of plant were affected. It is noticed from the letter dated 22.4.2017 of the Additional Chief Secretary, Uttar Pradesh, addressed to District officers, Mining Department, that the State Government directed the resumption of mining through the e-auctioning procedure. After this, the e-auctioning bids were invited by a committee formed by the DMs of the respective District, and the auction was completed by mid-June. The availability of sand was further delayed till September 2017 due to the stoppage of sand excavation during the rainy season in terms of the NGT order. Thus, the Petitioner claimed a total delay of 365 days for Unit-I and 455 days for Unit-II on this issue. In our view, the orders of the NGT/ Hon'ble High Court caused the disruption in the supply of sand till the resumption of the same by September 2017. These, according to us, were events beyond the control of the Petitioner for which the Petitioner cannot be faulted. Out of the affected period of around 991 days from January 2015 to September 2017, 594 days are subsumed in the delay caused on account of the Land acquisition of the Main plant area till 29.8.2016. Accordingly, the delay of 397 days (991-594) is condoned in respect of Unit-II, i.e., the period between 29.8.2016 and 30.9.2017. However, in the case of Unit-I, a delay of 306 days has been condoned additionally on account of land acquisition of AHP/CHP/Railway Siding during the period from 10.9.2014 to 1.7.2017 (date on which the major portion of land for AHP/CHP and Railway siding could be acquired for Unit-I). Accordingly, the delay of only 90 days between 1.7.2017 (date on which major portion of land for AHP/CHP and Railway siding could be acquired for Unit-I) and 30.9.2017 is condoned on account of the Sand mining ban.



H. Delay due to Corona Pandemic (Corona wave-I, Period affected: 22.3.2020-30.9.2020, 192 days, Corona wave-II, Period affected: 1.4.2021-29.5.2021, 58 days)

45. The Petitioner has provided the following details:

(a) Due to the rapid increase in COVID-19 pandemic cases nationwide, a day Janta curfew was imposed on 22nd March 2020 by the Prime Minister of India. The Janta curfew was immediately followed by a nationwide lockdown vide the Ministry of Home Affairs (MHA), GOI order dated 24.3.2020 for 21 days from 25.3.2020 to 14.4.2020. Because of the lockdown, all project work came to a complete standstill. All transport services- road, rail, and air- were suspended with the exception of transportation of only essential goods, fire, police, and emergency services.

(d) An advisory was issued by the Ministry of Labour, GOI, not to retrench the labour force due to leave/absence due to corona and to ensure that people leaving workplaces due to the spread of Corona should not be penalized. Lockdown was extended from 15.4.2020 to 3.5.2020 vide MHA order dated 15.4.2020, keeping in view the threat from the virus. GOI further extended the lockdown till 31.5.2020 vide MHA orders dated 1.5.2020 and 17.5.2020 with some relaxation.

(f) Considering the difficulty faced by the general public due to the imposition of lockdown, the Government had eased the situation by the first Corona unlock vide MHA order dated 30.5.2020 to give relaxation in a phased manner. Further Corona unlock-I and unlock-II orders were issued by the MHA on 29.6.2020 and 29.7.2020. Though corona unlock-1 started by the Government w.e.f. 1.6.2020 vide MHA order dated 30.5.2020, the mobilization of manpower could not be done due to fear among workers and various restrictions imposed under the corona guidelines. Most of the labourers did not turn up, even after the unlocking, as the means of travel were scarcely available and there was the concern of the spread of coronavirus.

(h) Even with one case detection, about 20-30 persons, i.e., primary contacts, were isolated and quarantined at the site. Other persons/ labourers did not turn up for fear of the spread of coronavirus. Though the manpower returned to the site and their numbers increased slowly, full mobilization could be achieved only after the end of Unlock-3 from the month of October 2020.

(i) The Ministry of Finance, GOI vide OM dated 19.2.2020 and 13.5.2020, exclusively declared the spread of the corona pandemic as a natural calamity to be covered under the 'Force Majeure' clause for the execution of the contract. Agencies executing the various packages of the station invoked the force majeure clause during the lockdown, due to the coronavirus pandemic, by submitting letters to the concerned Engineer-In-Charge in light of such notifications and the hardships faced by them to execute the job in hand.

(k) While the Petitioner was preparing for an early COD of Unit-II, after successful trial operation on 31.3.2021, the second wave of coronavirus struck at the



workplace. Due to the surge in Corona cases in the last week of March 2021, the MHA issued new Corona guidelines for test, track, and treat w.e.f. 1.4.2021. The month of April 2021 saw a sudden rise in coronavirus cases. The State of UP imposed a weekend corona curfew from Friday 8 pm to Monday 7 am from 17.4.2021 vide order dated 16.4.2021, in order to contain the rising corona cases in the State. This was extended from a two-day curfew to a three-day weekend curfew, starting from Friday 8 pm to Tuesday 7 am w.e.f. 30.4.2021.

(m) The restrictions imposed by the Government did not give the expected results, and the number of coronavirus cases kept rising rapidly. The number of Corona cases reported during April was more than 66 lakhs, the largest number ever in any month since Corona began in India in January 2020. Various State Governments ordered lockdowns to curb the rapidly escalating coronavirus cases. In the State of UP, the already imposed corona curfew was extended in phases by orders dated 3.5.2021, 9.5.2021, and 15.5.2021. This arrangement was extended in phases and continued till 31.5.2021, when the GOI announced relaxation from 1.6.2021.

(p) The number of coronavirus cases reported in India during the months of April and May 2021 was approximately 64 lakhs and 88 lakhs, respectively, compared to only 10 lakh cases in the month of March 2021. The number of casualties during the months of April and May was approximately 45000 and 117000, respectively. In the month of April, there was a sudden rise in the coronavirus cases at the project site. In the second half of April 2021, there were as many as 63 employees infected with the coronavirus out of the approximately. 515 employees, while the total number of persons infected with coronavirus at the station's premises during the same period was 137.

(r) During the difficult times of Corona, one of the site in-charges of OEM died of Corona, in the month of April, while one of the HODs of the Petitioner Company also succumbed to the Corona virus on 27.4.2021. Due to the enormous number of coronavirus cases and casualties thereof, the project execution work came to a total halt as people were afraid of life and stopped working. Under the situation of stoppage of the work, all agencies once again invoked the force majeure clause, for not executing the work.

(s) Due to the high demand for oxygen for medical purposes to treat the Corona patients, the use of oxygen for industrial purposes was banned by the Government of India vide MHA order dated 18.4.2021. The MHA order dated 18.4.2021 prohibiting the use of oxygen for industrial purposes halted skeleton activities such as cutting of temporary supports for the boiler, ESP and TG structures; fabrication of platforms required for access to critical locations; and balance welding work, which left out piping and support structures such as railings, platforms, and other items in all areas of the boiler, ESP, CHP and AHP, which were being undertaken on an emergency basis with limited manpower. As late as 17.6.2021, the supply of oxygen for industrial use could be restored.



(u) The Petitioner, being a diligent entity, made sure of the vaccination of its employees, and when work was resumed after vaccination, the remaining work was completed by round-the-clock effort, and the Petitioner could declare the station COD w.e.f. 00:00 hrs of 1.7.2021.

Analysis

46. The submissions have been considered. It is observed that COVID-19 was declared a worldwide pandemic, which caused constraints in the procurement of materials, the free movement of manpower, and the availability of manpower throughout the country. It is further observed that MOF, GOI notification dated 13.5.2020 provides as under:

“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 recognized 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.

47. Thus, the Covid-19 pandemic affected the free movement of men & materials, affecting the timely construction of the Project. Hence, in line with the MOF notification, read with Regulation 3(25) of the 2019 Tariff Regulations, the delay in project completion activities due to Covid-19 is considered as a force majeure condition and delay on this



count is to be condoned. The Petitioner has claimed condonation of delay of 192 days during the spread of Corona wave-I from March 2020 to September 2020 and condonation of 69 days from April 2021 to June 2021. It is observed that the lockdown was imposed w.e.f. 22.3.2020 and continued till 31.5.2020. Also, the relaxation in lockdown was effected in a phased manner by the MHA orders dated 30.5.2020, 29.6.2020, 29.7.2020, 29.8.2020, and 30.9.2020, respectively. It is observed that during the relaxation, the number of corona cases increased, and the manpower & materials could not be mobilized, due to the restrictions imposed and the fear among people. Therefore, the delay in the Project execution on account of the Corona wave-I was beyond the control of the Petitioner. The Petitioner has claimed a delay of 192 in project execution due to Corona-I. However, the Commission consistently has allowed a delay of 5 months on account of Corona-I to transmission projects under the purview of CERC. Accordingly, to maintain the consistency among the projects under execution, the Commission allows the delay of 5 months (153 days) in the commissioning of Unit-II, as the same was beyond the control of the Petitioner. It is observed that when the work resumed after the Corona wave-I, the Petitioner progressed with the project execution and carried out trial operation on 31.3.2021. However, due to the spread of the Corona wave-II, restrictions were imposed from 1.4.2021 vide the MHA order dated 23.3.2021. It is further observed that during the Corona wave-II, a number of cases and the casualties thereof increased multifold, and once again, the Project work was halted completely. Further, the use of Oxygen for industrial use was banned vide MHA order dated 18.4.2021, and the work was resumed only after the first round of vaccination, which was completed on 29.5.2021. As the Project execution during the Corona wave-II was halted completely on account of the restrictions imposed in the movement of men & materials, coupled with the fear amongst the people to attend to work due to the rising number of



corona cases and casualty thereof, the delay of 58 days from 1.4.2021 to 29.5.2021 in Project execution is condoned as the same was beyond the reasonable control of the Petitioner.

48. Considering the milestone-wise delay as per the PERT schedule submitted by the Petitioner, it is observed that there has been a total delay of 301 days from the scheduled COD of the Unit-I to its actual COD. We have, in this order, condoned the total delay of 917 days on various counts, excluding the overlapping delays, as discussed in the above paragraphs. Accordingly, the resultant delay of 301 days from the scheduled COD of Unit-I to its actual COD is condoned. Based on the above, the delay condoned for Unit-I is summarized below:

Milestones	Scheduled Completion	Actual Completion	Actual Delay	Delay Condoned	Revised Scheduled completion
Main plant civil	1.8.2018	1.3.2019	213	213	1.3.2019
Boiler Erection start upto BLU	1.2.2018	31.12.2018	334	334	31.12.2018
Boiler Light up	1.2.2018	31.12.2018	334	334	31.12.2018
TG & Aux Erection upto oil flushing	1.3.2018	1.9.2018	185	185	1.9.2018
BLU to Steam Blowing	1.5.2018	5.5.2019	370	370	5.5.2019
CHP Readiness	1.10.2018	7.11.2019	244	244	1.06.2019
AHP Readiness	1.12.2018	1.8.2019	244	244	1.8.2019
Railway Siding Readiness	1.6.2018	30.6.2019	395	395	30.6.2019
Commissioning-Full Load Operation	1.9.2018	14.9.2019	378	378	14.9.2019
COD	10.1.2019	7.11.2019	301	301	7.11.2019

49. Similarly, considering the milestone-wise delay as per the PERT schedule submitted by the Petitioner, it is observed that there has been a total delay of 722 days from the scheduled COD of the Unit-II to its actual COD. We have condoned the delay of 1129 days, excluding the overlapping delays on various counts, as discussed in the above paragraphs. Accordingly, the resultant delay of 722 days from the scheduled COD of the Unit-II to its actual COD is condoned. Based on the above, the delay condoned for Unit-II is summarized below:



Milestones	Scheduled Completion	Actual Completion	Actual Delay	Delay Condoned	Revised Scheduled completion
Main plant civil	1.12.2018	31.12.2019	395	395	31.12.2019
Boiler Erection start up to BLU	1.8.2018	28.10.2020	819	819	28.10.2020
Boiler Light Up	1.8.2018	28.10.2020	819	819	28.10.2020
TG & Aux Erection up to oil flushing	1.8.2018	29.1.2020	546	546	29.1.2020
BLU to Steam Blowing	1.11.2018	8.2.2021	830	830	8.2.2021
CHP Readiness	1.4.2019	1.2.2020	306	306	1.2.2020
AHP Readiness	7.11.2019	1.3.2020	274	274	1.3.2020
Railway Siding Readiness	1.12.2018	30.3.2020	485	485	30.3.2020
Commg-Full Load Operation	1.3.2019	27.3.2021	757	757	27.3.2021
COD`	10.7.2019	1.7.2021	722	722	1.7.2021

50. Based on the various facts and figures provided by the Petitioner as above, we can see that the different activities/packages got delayed on account of the external factors from time to time during the project execution. After analysis, we observed that 'Civil Package Start, Civil Package Completion, Boiler Erection Start, Steam Blowing Completion/ Boiler Light up/ Steam Blowing Completion/ Commissioning-Full Load Operation' activities are falling under the critical path, thereby delaying the COD of the station. The factors delaying these activities are primarily 'Delay in Land Acquisition (Pvt Land, Govt Land, status quo order of the Hon'ble Supreme Court), Ban on sand mining, heavy rainfall, and the Outbreak of the COVID-19 pandemic. These reasons have the impact of a cumulative delay of 1186 days (excluding overlapping). However, the Petitioner has claimed a delay of 722 days, which shows the prudent project execution on its part, mitigating the total effect of delay on the critical path. In light of the same, we are inclined to accept that the reasons furnished by the petitioner affecting the project execution are beyond the reasonable control of the Petitioner, and accordingly, the delay has been condoned. Based on this, the summary of the revised scheduled COD approved is as under:



Unit	SCOD	Time Overrun condoned (in days)	Revised SCOD	Actual COD	Time Overrun disallowed (in days)
Unit-I	10.1.2019	301	7.11.2019	7.11.2019	0
Unit-II	10.7.2019	722	1.7.2021	1.7.2021	0

Cost Overrun

51. The Petitioner has submitted that the total expenditure of Rs.8422.27 crore till the COD of Unit-II is within the cost approved in the 411th meeting of the Petitioner's Board on 10.9.2014 for Rs.10016.10 crore, including IDC, IEDC, FC, FERV & Hedging cost of Rs.1511.42 crore at Q2 of 2014 Price level. Hence, there is no cost overrun. The reasons for the cost variation between the actual expenditure and the cost estimate of certain packages/activities, as submitted by the Petitioner, are as under:

- a) Pre-Commissioning activities
- b) BOP Electrical
- c) AHP, CHP

A. Cost escalation in the Pre-commissioning activities

52. As regards the cost overrun of Rs.301.33 crore in Pre-commissioning expenses, the Respondent UPPCL has submitted that the Petitioner has not furnished any documentary evidence nor supported its statements with any data. It has also submitted that the assertion by Petitioner that *"It may be pertinent to mention that estimate was prepared based on the past details of NTPC stations which were mainly sub-critical units"* shows a serious flaw in the project planning stage and given the fact that the super critical unit was being implemented for the first time, it was more incumbent on the Petitioner to take due care. Accordingly, the Respondent has stated that the Commission may direct the Petitioner to furnish the details of the number of times the boiler was lit, with reasons, and then may allow such portion of the startup cost as is reasonable and prudent. In response, the Petitioner has clarified as under:



- a) At the time of the Investment Approval, startup power was envisaged under the DSM mechanism. However, due to the dropping of ISTS lines from the envisaged ATS of Tanda-II, the Tanda-II project was connected to only the intra-state system of U.P. Therefore, Tanda-II was not eligible for startup power under the DSM mechanism. Startup power has been taken from UP as an HT consumer. This resulted in an increase of pre-commissioning expenses by around Rs.40 crore.
- b) L&T - MHPS Boiler (LMB) made the Super Critical Steam Generator (SG) package, which was first awarded in NTPC. Therefore, the Petitioner did not have any prior experience in commissioning LMBs to make supercritical units. The estimate of pre-commissioning expenses was made based on our experience with sub-critical 500 MW units, which require a less stringent chemical regime for the operation and commissioning of the units. Since the units are super critical units, stricter water/ steam chemistry was to be adhered to, as prescribed by OEM, before admitting water/ steam into the SG/TG systems. Typically, a cold startup of a super-critical Unit needs about 36 hrs, leading to fuel oil consumption of about 450KL. On the other hand, a sub-critical unit takes about 8 hrs for cold start-up, and fuel oil consumption is also much less. However, during the initial commissioning, when water chemistry is not stabilized, much more oil is required for cold start-up, requiring oil consumption to the tune of 1000-1200 KL for supercritical units. One such start-up during initial commissioning requires oil consumption of around Rs . 5.0 crore @ LDO price of Rs. 47000/- per KL.
- c) The boiler is lighted up a number of times, before the declaration of the commercial operation of any unit for proving various systems, including the interlock & protection corresponding to the system/unit. Some of these important activities comprise steam blowing/hot flushing, safety valve setting, electrical testing, including full load testing, GRP commissioning, unit stabilization, full load trial operation, Governor testing, auto-loop tuning, over-speed testing, AVR tuning, etc. It may be pertinent to mention that the estimate was prepared based on the past details of NTPC stations, which were mainly sub-critical units.
- d) The investment approval for the station was accorded in September 2014, based on the price level of the 2nd Quarter, 2014. As per the Commission's order dated 29.5.2021 in Petition No. 7/SM/2021, 7.51% was the escalation rate for the domestic coal price in India during 2008-19. In the same line, a 5% escalation rate for secondary fuel oil price in India during 2008-19 may be considered. This resulted in an increase in the pre-commissioning expenses, and it was not predictable for the Petitioner at the time of investment approval.
- e) Tanda-II, a non-pit head station, has a fuel supply arrangement which got operationalized subsequent to the receipt of communication from the Ministry of Power, GOI, to the Ministry of Coal, GOI, regarding the declaration of the commercial operation of unit(s). Therefore, the commissioning coal was procured from CCL for pre-commissioning activities/start-ups through the MOU route, which



is costlier than the normal FSA coal, thereby increasing the pre-commissioning expenses.

- f) It is therefore submitted that on account of the various reasons/factors described above, it was not possible for the Petitioner to envisage accurate pre-commissioning expenditure beforehand.

Analysis

53. The matter has been considered. From the submissions of the Petitioner, it is observed that the commissioning of the 660 MW supercritical units requires a stricter chemical regime to be followed in comparison to the 500 MW sub-critical units, thereby leading to an extended boiler light-up during the commissioning activities. Further, the additional cost incurred by the Petitioner in startup power and the increase in cost of coal & oil, made the actual commissioning cost exceed the estimated cost. Since the overall cost of the project is well below the estimated cost, the cost incurred on pre-commissioning activities is justified. Hence, there is no cost overrun.

B. Cost escalation of BOP Electrical

54. As regards the cost escalation in BOP Electrical, the Petitioner has submitted the following:

- a) **Switch Yard Package:** As per Form-F submitted by the Petitioner vide affidavit dated 21.6.2022, there is an increase of Rs.48.48 crore, from the estimated cost of Rs.142.35 crore. In support of the same, the Petitioner has submitted as under:
- i. Estimated cost approved in Investment Approval for Switchyard and cabling packages was Rs.142.35 crore. However, the awarded cost discovered through transparent International competitive bidding was at Rs.177.83 crore (i.e. Rs.35.48 crore higher than the estimated cost).
 - ii. Gas Insulated Switchyard (GIS) was envisaged for Tanda-II, which requires less land area in comparison to a conventional switchyard. International Competitive Bidding (ICB) was called for the switchyard package on 12.12.2014, and three (03) bids were received. The package was awarded to a successful L1 bidder, i.e., M/s Techno Electric, on 12.10.2015. The main reason for the higher awarded cost of the Switchyard package is that the equipment/ parts of the GIS are imported items, and there are only limited vendors available for GIS. This resulted in an increase of around Rs.35.48 crore (177.83 – 142.35) in the awarded value of the switchyard package.



- iii. Imposition of GST@18% also resulted in an increase in the Switchyard package of Rs.9.26 crore approx.
- iv. Abnormal hike (about 40%) in the minimum wages of labour in 2017. Such an increase in the labour was not envisaged at the time of the investment approval/ preparation of the estimate. As per the Price Variation Clause (PVC) clause of the electrical packages, there is an increase in the estimated capital cost by around Rs.3.68 crore in the Switchyard packages.
- b) **Switch gear Package:** As per Form-F submitted by the Petitioner vide affidavit dated 21.6.2022 there has been an increase of Rs.0.99 crore from the estimated cost of Rs.45.66 crore. In support of the same, the Petitioner has submitted that the actual cost increased mainly due to the implementation of GST, which accounted for an increase of Rs.3.97 crore. The awarded cost was also higher by Rs.33 lakh from the estimated cost discovered through a transparent International competitive bidding.
- c) **Cables, Cable facilities & grounding Package:** As per Form-F submitted by the Petitioner, there has been an increase of Rs.26.62 crore from the estimated cost of Rs 78.12 crore. In support of the same, the Petitioner has submitted the following:
- i. Awarded cost discovered through a transparent competitive bidding was at Rs 99.27 crore, i.e Rs.21.15 crore, higher than the estimated cost. Due to the implementation of GST w.r.t. 1.7.2017, there is an increase in cost by Rs 8.34 crore approx.
- ii. There was an abnormal hike (about 40%) in the minimum wages of labour in 2017. Such an increase in the labour was not envisaged at the time of the investment approval/ preparation of the estimate. As per the Price Variation Clause (PVC) of the package, there is an increase in estimated capital cost by around Rs.4.49 crore.

Analysis

55. The matter has been considered. From the submissions of the Petitioner, it is observed that there has been an increase in the awarded cost of Rs.35.48 crore and Rs.21.15 crore respectively, in the Switchyard Package and Cabling Package of BOP electrical, discovered through an International Competitive Bidding. Further, the increase in the cost occurred due to the imposition of GST and also Wage hike. The overall cost of the project is well below the estimated cost, and therefore, the cost overrun with respect to the estimated cost in BOP Electrical is beyond the control of the Petitioner and is justified. Hence, there is no cost overrun.



C. Cost Escalation CHP & Railway Siding:

56. As per Form-F, submitted by the Petitioner vide affidavit dated 21.6.2022, there is an increase of Rs.6.85 crore and Rs.11.65 crore in the CHP and Railway Siding Packages, from the estimated cost of Rs.364.81 crore and Rs.160.46 crore, respectively. In support of the same, the Petitioner submitted that the said escalation occurred mainly due to the implementation of GST. Thus, the reasons for the escalation of the cost are beyond the control of the Petitioner. Further, the overall cost of the project is well below the estimated cost, and therefore, the cost incurred in the CHP & Railway Siding is justified. Hence, there is no cost overrun.

Capital Cost

57. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission after a 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.”

Capital Cost as on COD of Unit-I (7.11.2019)

58. The details of the capital cost claimed by the Petitioner, as on COD of Unit-I is as under:

	<i>(Rs. in lakh)</i>
Gross Block as per IND AS for the Project as on COD of Unit-I *	462474.13
Less: Gross Block pertaining to other Stages as on COD of Unit-I *	3347.00
Gross Block as per IND AS for the generating station as on COD of Unit-I *	459127.13
Add: IND AS adjustment *	(-) 3537.39
Gross Block as per IGAAP as on COD of Unit-I (on accrual basis) *	462664.52
Less: Un-discharged liabilities included above *	46727.86
Gross Block as per IGAAP as on COD of Unit-I (on cash basis) *	415936.66
Add: Notional IDC	1246.36
Add: ERV charged to revenue	5776.16
Capital cost claimed as on COD of Unit-I	422959.19

* Auditor certified

59. The auditor certified capital cost, on an accrual basis, as well as on a cash basis, amounting to Rs.462664.52 lakh and Rs.415936.66 lakh, respectively, as on the COD of Unit-I, is inclusive of IDC & FC of Rs.46393.40 lakh and FERV of Rs.3350.69 lakh. Accordingly, the hard cost component of the capital cost, as on the COD of Unit-I, works out as Rs.412920.43 lakh, on an accrual basis, and Rs.366192.57 lakh, on a cash basis. The hard cost, on accrual and on cash basis, as on the COD of Unit-I, also includes IEDC of Rs.27929.51 lakh.

60. Having held that the time and cost overrun for Unit-I and Unit-II were beyond the



control of the Petitioner, we allow the capital expenditure towards hard cost of Rs.366192.57 lakh, as on the COD of Unit-I (net of un-discharged liabilities of Rs.46727.86 lakh). Further, considering the details of the IEDC furnished by the Petitioner, the allowable IEDC, after deduction of the depreciation amounting to Rs.1526.73 lakh included in the capital cost as on COD of Unit-I, works out to Rs.26402.78 lakh. Accordingly, the hard cost considered for the purpose of tariff, as on the COD of Unit-I, works out to Rs.364665.84 lakh (net of un-discharged liabilities of Rs.46727.86 lakh) on a cash basis.

IDC & FC and FERV

61. The Petitioner has claimed IDC & FC amounting to Rs.46393.40 lakh and FERV amounting to Rs.3350.69 lakh, as on the COD of Unit-I. Considering the fact that the entire time overrun up to the COD of Unit-I has been condoned for the purpose of tariff, IDC & FC amounting to Rs.46393.40 lakh and FERV amounting to Rs.3350.69 lakh are allowed as on COD of Unit-I.

Notional IDC

62. The Petitioner has claimed notional IDC of Rs.1246.36 lakh, for the period from 4th Quarter of 2013-14 to COD of Unit-I, as on the COD of Unit-I. The Investment Approval of the project was accorded by the Board of the Petitioner Company in its 411th meeting held on 10.9.2014. Accordingly, the Petitioner's claim for notional IDC before the date of the IA has been disallowed. Further, the Petitioner has claimed notional IDC based on cumulative cash expenditure of Rs.701165.79 lakh as on COD of Unit-I, which includes Rs.1526.73 lakh towards depreciation, the same being a non-cash expenditure, has not been considered for the purpose of notional IDC calculation. Considering the quarterly debt-equity position corresponding to actual cash expenditure and in terms of Regulation



19(2)(b) of the 2019 Tariff Regulations, as against the Petitioner's claim of Rs.1246.36 lakh the allowable notional IDC as on COD of Unit-I works out to Rs.675.68 lakh, the same has been considered for the purpose of tariff.

ERV charged to Revenue:

63. The Petitioner has claimed FERV charged to revenue amounting to Rs.5776.16 lakh, as on COD of Unit-I. As per the consistent methodology adopted by the Commission, FERV charged to revenue up to COD is allowed as part of the capital cost for the purpose of the tariff. Accordingly, the Petitioner's claim of Rs.5776.16 lakh is allowed under this head.

64. In view of the above, the allowable capital cost as on COD of Unit-I works out to Rs.420861.77 lakh.

Capital Cost as on the COD of Unit-II (1.7.2021)

65. The details of the capital cost claimed by the Petitioner, as on the COD of Unit-I, is as under:

	<i>(Rs. in lakh)</i>
Gross Block as per IND AS for the Project as on COD of Unit-II *	847484.70
Less: Gross Block pertaining to other Stages as on COD of Unit-II *	3462.27
Gross Block as per IND AS for the generating station as on COD of Unit-II *	844022.43
Add: IND AS adjustment *	(-) 4545.69
Gross Block as per IGAAP as on COD of Unit-II (on accrual basis) *	848568.13
Less: Un-discharged liabilities included above *	47765.70
Gross Block as per IGAAP as on COD of Unit-II (on cash basis) *	800802.43
Add: Notional IDC	2557.52
Add: ERV charged to revenue	16124.36
Capital cost claimed as on COD of Unit-II	819484.31

* Auditor certified

66. The auditor certified capital cost on an accrual basis, and on a cash basis, amounting to Rs.848568.13 lakh and Rs.800802.43 lakh, respectively, as on the COD of Unit-II is inclusive of IDC and FC of Rs.92503.44 lakh and FERV of Rs.7297.22 lakh. Accordingly, the hard cost component of the capital cost, as on the COD of Unit-II, works



out to Rs.748767.47 lakh, on an accrual basis, and Rs.701001.77 lakh, on a cash basis. The hard cost, on accrual and on cash basis, as on the COD of Unit-II, also includes the IEDC of Rs.37510.21 lakh. Having held that the time and cost overrun for Unit-I and Unit-II were beyond the control of the Petitioner, we allow the capital expenditure towards hard cost of Rs.701001.77 lakh, as on the COD of Unit-II (net of un-discharged liabilities of Rs.47765.70 lakh). Further, considering the details of the IEDC furnished by the Petitioner, the allowable IEDC, after deduction of the depreciation amounting to Rs.1526.73 lakh included in the capital cost as on COD of Unit-II, works out to Rs.35983.48 lakh. Accordingly, the hard cost considered for the purpose of tariff, as on the COD of Unit-II, works out to Rs.699475.04 lakh (net of un-discharged liabilities of Rs.47765.70 lakh) on a cash basis.

IDC & FC and FERV

67. The Petitioner has claimed IDC & FC amounting to Rs.92503.44 lakh and FERV amounting to Rs.7297.22 lakh as on COD of Unit-II. Considering the fact that the entire time overrun up to the COD of Unit-II has been condoned for the purpose of tariff, IDC & FC amounting to Rs.92503.44 lakh and FERV amounting to Rs.7297.22 lakh have been considered for the purpose of tariff, as on COD of Unit-II. The Petitioner has submitted the Auditor Certificate of IDC & FC vide affidavit dated 24.2.2023 as directed by the Commission vide ROP of hearing dated 6.1.2023. The Petitioner has also furnished the details and the calculation of IDC & FC in Form-14, and also provided the reconciliation of IDC & FC claimed in Form-B with that of Form-14. Considering the fact that the entire time overrun, as on the COD of Unit-II, has been allowed for the purpose of tariff, IDC & FC amounting to Rs.92503.44 lakh and FERV amounting to Rs.7297.22 lakh are allowed as on COD of Unit-II.



Notional IDC

68. The Petitioner has claimed notional IDC of Rs.2557.52 lakh, for the period from 4th Quarter of 2013-14 to COD of Unit-II, as on the COD of Unit-II. As stated above, the Petitioner's claim for notional IDC before the date of the IA has been disallowed. Further, the Petitioner has claimed notional IDC based on cumulative cash expenditure of Rs.847570.95 lakh as on COD of Unit-II, which includes Rs.1526.73 lakh towards depreciation, the same being a non-cash expenditure, has not been considered for the purpose of notional IDC calculation. Considering the quarterly debt-equity position corresponding to actual cash expenditure and in terms of Regulation 19(2)(b) of the 2019 Tariff Regulations, as against the Petitioner's claim of Rs.2557.52 lakh, the allowable notional IDC as on COD of Unit-II works out to Rs.1749.62 lakh, the same has been considered for the purpose of tariff.

FERV charged to Revenue

69. The Petitioner has claimed FERV charged to revenue amounting to Rs.16124.36 lakh, as on COD of Unit-II. As per the consistent methodology adopted by the Commission, the FERV charged to revenue up to COD is allowed as part of the capital cost for the purpose of the tariff. Accordingly, the Petitioner's claim of Rs.16124.36 lakh is allowed under this head.

70. In view of the above, the allowable capital cost as on COD of Unit-II works out to Rs.817149.68 lakh.

Adjustment of the revenue generated from the sale of Infirm Power

71. The capital cost claimed as on COD of Unit-I and Unit-II, includes the pre-commissioning expenses amounting to Rs.26035.33 lakh and Rs.37961.57 lakh, respectively. The Petitioner vide affidavit dated 21.6.2022, also furnished an Auditor Certificate in respect of its claim towards the Pre-commissioning expenses. As per the



Auditor Certificate, the pre-commissioning expenses claimed are the net of revenue earned from the sale of infirm power, amounting to Rs.2846.78 lakh as on the COD of Unit-I and inclusive of the start-up power (net of sale of 455.86 MUs of infirm power) amounting to Rs.2579.11 lakh, as on the COD of Unit-II. The Petitioner vide affidavit dated 24.2.2023, submitted the Auditor Certificate in respect of the infirm power as on the COD of both the Units. As per this certificate, the value of infirm power as on COD of Unit-I and Unit-II is Rs.2849.05 lakh (corresponding to 179.36 Mus) and Rs.6384.94 lakh (corresponding to 424.26 Mus), respectively. Thus, both these Auditor certificates are at variance with each other. Accordingly, the Petitioner is directed to furnish the revised Auditor Certificate in respect of the Pre-commissioning expenses (including adjustment of infirm power in both quantitative and monetary terms) along with a detailed justification for this variation at the time of truing up of the tariff. However, for the present, the pre-commissioning expenses as claimed by the Petitioner have been considered as on CODs of respective Units.

Liquidated Damages (LD)

72. The Petitioner vide affidavit dated 24.2.2023, has submitted that till the COD of the generating station, the Petitioner has not recovered any amount in lieu of LD and has further submitted that details of the amount recovered, if any, will be submitted at the time of truing up of tariff. The Petitioner has also furnished the Auditor Certificate stating 'nil' recovery of LD and the insurance proceeds till the COD of the respective Units. The LD / insurance proceeds recovered, if any, will be considered based on the Petitioner's submissions at the time of truing up of tariff.

Initial Spares

73. Regulations 23 of the 2019 Tariff Regulations provide for initial Spares as under:



	As on COD of Unit-I	2019-20 (COD of Unit-I to 31.3.2020)	2020-21	2021-22	Total
Accrual Basis	17657.21	993.96	1843.38	656.69	21151.24
Liability	0	0	81.87	0.76	82.63
Cash basis	17657.21	993.96	1761.51	655.93	21068.61

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

(a) Coal-based/lignite-fired thermal generating stations - 4.0%

xxxx

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.”*

74. The COD of Unit-II of the generating station is 1.7.2021, and accordingly, the cut-off date of the generating station in terms of the 2019 Tariff Regulations is 31.7.2024. The Petitioner has claimed initial spares of Rs.20596.18 lakh, on an accrual basis, as on COD of Unit-II / Station. The Petitioner has also submitted an Auditor Certificate in respect of initial spares capitalized up to 31.3.2022, amounting to Rs.21151.24 lakh on an accrual basis and Rs.21068.61 lakh on a cash basis. The Petitioner at Form-9A has claimed the following initial spares as additional capital expenditure for the period 2019-24:

(Rs in lakh)

	2019-20 (COD of Unit-I to 31.3.2020)	2020-21	2021-22 (up to COD-II)	2021-22 (from COD-II to 31.3.2022)	2022-23	2023-24
Accrual Basis	993.96	1843.38	101.63	900.00	1400.00	0.00
Liability	0	81.87	3.22	0.00	0.00	0.00
Cash basis	993.96	1761.51	98.41	900.00	1400.00	0.00

75. On perusal of the above two tables, it is observed that as per the Auditor's Certificate, the value of initial spares capitalized in 2021-22 is Rs.656.69 lakh, on an accrual basis. However, from the additional capital expenditure claimed, it is observed that the initial spares claimed during the year 2021-22 are Rs.1001.63 lakh, on an accrual basis. The Petitioner is directed to furnish the revised Auditor's Certificate, showing the capitalization of initial spares, on accrual and cash basis, during the period 2019-24,



along with detailed justification in respect of the aforesaid variation in the initial spares claimed. For the present, the initial spares allowed as additional capital expenditure, for the period from COD of Unit-II to 31.3.2022, is restricted to Rs.557.52 lakh (Rs.655.93 lakh i.e., Auditor's Certified initial spares, on a cash basis, for the year 2021-22 *minus* Rs.98.41 lakh i.e., cash value of initial spares claimed during the period from 1.4.2021 to COD of Unit-II), subject to truing up.

76. The Petitioner at Form-B has furnished the anticipated value of Plant & Machinery and initial spares amounting to Rs.639372.22 lakh and Rs.24096.18 lakh respectively, as on the cut-off date of the generating station. Therefore, the ceiling limit of initial spares as per Regulation 23(a) of the 2019 Tariff Regulations works out to Rs.25636.50 lakh $[(Rs.639372.22 - Rs.24096.18) * 4/96]$. Since the Petitioner's estimated claim for initial spares upto the cut-off date (i.e. Rs.24096.18 lakh) is within the ceiling limit as worked out above, the Petitioner's claim for initial spares up to 31.3.2024 is allowed (after restricting initial spares claimed during the period from COD of Unit-II to 31.3.2022, as dealt above), and is subject to truing up.

77. In view of the above, the capital cost allowed as on respective COD's are as under:

	<i>(Rs in lakh)</i>	
	As on COD of Unit-I (7.11.2019)	As on COD of Unit-II (1.7.2021)
Hard Cost	364665.85	699475.04
Add: IDC and FC	46393.40	92503.44
Add: FERV	3350.69	7297.22
Add: Notional IDC	675.68	1749.62
Add: Short term FERV	5776.16	16124.36
Capital cost allowed as on COD's (on Cash basis)	420861.77	817149.68

Additional Capital Expenditure

78. Regulation 24 (1) of the 2019 Tariff Regulations provides as under:

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

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



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

- (a) Undischarged liabilities recognized to be payable at a future date;
- (b) Works deferred for execution;
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;
- (e) Change in law or compliance of any existing law; and
- (f) Force Majeure events:

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

79. The details of the additional capital expenditure claimed by the Petitioner, for the period 2019-24, is as under:

(Rs. in lakh)									
S N	Head of Work/ Equipment	Additional Capital Expenditure claimed							Regulations
		2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24	Total	
1	2	3	4	5	6	7	8	9	10
A.	Works under Original Scope eligible for RoE at Normal Rate								
1	Land and infrastructure	25.31	463.23	-	6.07	-	1000.00	1494.60	24(1)(b)
2	Main Plant & Civil Chimney	1953.67	3329.14	327.32	649.24	2000.00	3000.00	11259.38	
3	Township	72.9	158.79	221.64	1169.90	5100.00	14105.98	20829.21	
4	Construction Tools & Plants	170.87	202.73	186.29	144.76	-	-	704.64	
5	SG & Auxiliaries	3458.38	-543.07	174.21	7800.78	1110.78	-	12001.08	
6	TG & Auxiliaries	1295.33	-208.93	91.11	6833.59	-	-	8011.10	
7	C&I	41.16	65.36	-	88.63	327.18	-	522.33	
8	Railway Siding & LOCO	1940.05	1184.92	-	1100.70	500	-	4725.66	
9	CHP	556.46	-	-	450.14	120	-	1126.60	
10	Ash handling system	745.8	865.88	-	376.6	172.1	-	2160.38	
11	Ash dyke	1057.96	1847.26	-	961.43	1050.00	497	5413.65	
12	Water and cooling system	100.01	100.01	-	897.35	103.02	-	1200.39	
13	Cooling Tower	316.32	-	-	-	-	-	316.32	24(1)(b)
14	Electrical System	200.04	322.03	-	581.04	519.03	-	1622.13	
15	Switchyard system	101.27	52.76	-	-	-	-	154.03	24(1)(b) read with 24(1)(e)
16	FGD	-850.09	-	-	-	59124.52	5870.50	64144.94	
17	Fire Protection System	42.68	43.73	-	208.36	88	-	382.77	
18	Station Piping	15.5	26.39	-	35.67	31.16	-	108.72	



19	Site Development	2872.56	3472.44	-	-	500	-	6845.00	
20	AC System	-	26.77	-	240.28	229.73	88.12	584.9	
21	Initial spares	993.96	1761.51	98.41	900	1400.00	-	5153.88	24(1) (c)
22	MBOA	211.25	323.24	78.73	298.05	650	1200.00	2761.27	24(1)(b)
	Total (A)	15321.36	13494.20	1177.70	22742.59	73025.52	25761.60	151522.98	
B.	Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
	Total (B)	-	-	-	-	-	-	-	
C	Total Additional Capitalization Claimed (A+B)	15321.36	13494.20	1177.70	22742.59	73025.52	25761.60	151522.98	
D	Liability Discharge During the Year	11754.43	15442.84	246.32	-	-	-	-	
E	Total Add Cap Incl Liability Discharge	27075.79	28937.03	1424.02	22742.59	73025.52	25761.60	151522.98	

80. The Petitioner has also furnished the Auditor's Certificate in respect of the additional capital expenditure claimed for the period from the COD of Unit-I till the COD of Unit-II/Station. However, the Petitioner has not furnished the revised Form-J (i.e., Reconciliation of capitalization claimed vis-a-vis books) based on the revised additional capital expenditure claimed for the period 2019-24. Accordingly, we direct the Petitioner to furnish the Auditor's certificate in respect of the additional capital expenditure claimed, with the audited books of accounts, for the period 2019-24, at the time of truing up of the tariff.

Additional Capital Expenditure for the period from COD of Unit-I (7.11.2019) till the COD of Unit-II (1.7.2021)

81. The Petitioner has claimed the additional capital expenditure amounting to Rs.57436.84 lakh for the period from the COD of Unit-I till the COD of Unit-II. This includes an expenditure for Rs.29993.26 lakh (Rs.15321.36 lakh in 2019-20 from COD of Unit-I to 31.3.2020, Rs.13494.20 lakh in 2020-21 and Rs.1177.70 lakh in 2021-22 (from 1.4.2021 to COD of Unit-II) towards works within the original scope of work and also discharge of liabilities amounting to Rs.27443.59 lakh (Rs.11754.43 lakh in 2019-20 from COD of Unit-I to 31.3.2020, Rs.15442.84 lakh in 2020-21 and Rs.246.32 lakh in 2021-22 (from 1.4.2021 to COD of Unit-II)). The Commission, vide its letter dated 17.4.2023, directed the



Petitioner to submit -(i) the information regarding claims made under Form-9 for each negative entry claimed, and (ii) provide details regarding the claim made towards 'Site Development'. In response, the Petitioner submitted the following information (year-wise) regarding negative entries:

- a. **2019-20:** In 2019-20, the negative entry in Form-9 was due to the de-capitalization of the FGD system, which was inadvertently capitalized at the time of COD of Unit-I COD. Since the FGD system was yet to be commissioned and to be put to use, the same was decapitalized during 7.11.20019 to 31.3.2020, with a corresponding adjustment in liability, IDC, IEDC &FERV.
- b. **2020-21:** The negative entries in Form-9 for 2020-21 were against the additional capitalization of SG & Auxiliaries and TG & Auxiliaries of Rs 543.07 lakh and Rs.208.93 lakh, respectively. The SG & Aux breakup of Rs . 543.07 lakh was due to the deletion of Rs . 550.93 lakh, on account of favorable loan ERV, and the addition of Rs . 7.86 lakh due to the cost adjustment, resulting in a total negative entry of Rs . 543.07 lakh. Similarly, in the case of TG & Aux, the negative entry of Rs.208.93 lakh comprise the deletion of Rs.331.35 lakh, on account of favorable FERV, and the addition of Rs.122.42 lakh due to cost adjustment.

82. As regards the claim towards 'Site Development', the Petitioner submitted that the same was on account of the Canal lining works, which were included in the project cost estimate under the head 'civil works'. The Petitioner also submitted that the U.P. Irrigation Department accorded the in-principle approval for water availability of 65 cusec of water from Tanda Pump Canal on Saryu River, after achieving savings in water through canal lining. Also, the Central Water Commission (CWC) accorded water availability concurrence for the project, with the condition of lining work Tanda Canal.

83. In view of the above, the additional capital expenditure claimed for the period from COD of Unit-I to COD of Unit-II is allowed in terms of the Auditor's Certificate furnished by the Petitioner.

Additional Capital Expenditure for the period from COD of Unit-II (1.7.2021) to 31.3.2024

84. The Petitioner has claimed the additional capital expenditure of Rs.121529.71 lakh



(Rs.22742.59 lakh for the period from COD of Unit-II to 31.3.2022, Rs.73025.52 lakh for 2022-23, Rs.25761.60 lakh for 2023-24) for the period from COD of Unit-II till 31.3.2024, on a cash basis. The Petitioner has claimed the projected additional capital expenditure under Regulation 24 of the 2019 Tariff Regulations, i.e., the works within the original scope of work. It is observed that the additional capital expenditure claimed includes the additional capital expenditures for Rs.59124.52 lakh and Rs.5870.50 lakh (a total of Rs.64995.02 lakh) towards the FGD package, under the original scope of work in 2022-23 and 2023-24 respectively, under Regulation 24(1)(b) & (e) of the 2019 Tariff Regulations. In support of the same, the Petitioner has submitted that in order to comply with the MOEF&CC Notification dated 7.12.2015, to meet the revised environmental parameters, FGD was being installed at the station. It is observed that the FGD system being installed is in order to comply with the SOx norms, as per the MoEF&CC Notification dated 7.12.2015. As the additional capitalisation claims on account of the installation of FGD have been allowed in the other stations of the Petitioner, viz., Petition Nos. 183/GT/ 2022 and 402/GT/2019, the same is allowed for this generating station

85. Based on the above, the projected additional capital expenditure of Rs.22400.11 lakh (Rs.22742.59 lakh - Rs.900 lakh + Rs.557.52 lakh) for the period 2021-22 (i.e., from COD of Unit-II to 31.3.2022) after adjustment of the initial spares as dealt above, and Rs.73025.52 lakh in 2022-23, and Rs.25761.60 lakh in 2023-24, is allowed.

Capital cost allowed for the period 2019-24

86. Accordingly, the capital cost allowed for the generating station for the period 2019-24, is as under:

	(Rs. in lakh)					
	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Opening Capital Cost	420861.77	447937.57	476874.60	817149.68	839549.79	912575.31
Add: Admitted additional capital expenditure	27075.79	28937.03	1424.02	22400.11	73025.52	25761.60
Closing Capital Cost	447937.57	476874.60	478298.62	839549.79	912575.31	938336.91
Average Capital Cost	434399.67	462406.08	477586.61	828349.73	876062.55	925456.11

Debt Equity Ratio

87. 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:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff;*
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment;*
- any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*

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

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

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

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

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

(4) In case of the generating station and the transmission system including



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

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

88. The Petitioner has claimed tariff, considering the debt-equity ratio of 70:30. Considering the cumulative capital expenditure and the debt position, as on the respective CODs, the debt-equity ratio, as on the COD of Unit-I and Unit-II works out to 68.31:31.69 and 69.02:30.98, respectively. These ratios are well within the normative norm of 70:30, and accordingly, the debt-equity ratio of 70:30 has been considered as on the COD of both the Units and for funding of the additional capital expenditure up to the COD of Unit-II. Further, for the funding of the additional capital expenditure from COD of Unit-II to 31.3.2024, the debt-equity ratio of 70:30 has been considered. The details of the normative debt and equity considered and allowed for the period 2019-24 are as under:

	Capital cost as on COD of Unit-I (7.11.2019) (Rs. in lakh)	(%)	Capital cost as on COD of Unit-II (1.7.2021) (Rs. in lakh)	(%)	Additional capital expenditure from COD of Unit-II till 31.3.2024 (Rs. in lakh)	(%)	Capital cost as on 31.3.2024 (Rs. in lakh)	(%)
Debt	294603.24	70	572004.78	70	84831.06	70	656835.84	70
Equity	126258.53	30	245144.90	30	36356.17	30	281501.07	30
Total	420861.77	100	817149.68	100	121187.23	100	938336.91	100

Return on Equity

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

“30. Return on Equity:

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

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



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

Provided further that:

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

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

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

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

(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019."

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

"31. Tax on Return on Equity:

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

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

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

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

Illustration-

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



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

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

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

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

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

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

(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."

91. 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, and the same has been considered. Accordingly, ROE has been worked out as under:

	<i>(Rs. in lakh)</i>					
	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Notional Equity - Opening (A)	126258.53	134381.27	143062.38	245144.90	251864.94	273772.59
Addition of Equity due to additional capital expenditure (B)	8122.74	8681.11	427.21	6720.03	21907.66	7728.48
Normative Equity - Closing (C) = (A+B)	134381.27	143062.38	143489.59	251864.94	273772.59	281501.07
Average Normative Equity (D) = (A+C)/2	130319.90	138721.82	143275.98	248504.92	262818.76	277636.83
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate (F)	17.472%	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax) (G) = (E)/(1-F)	18.782%	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity (Pre-tax) (annualized) (H) = (DxG)	24476.68	26054.73	26910.10	46674.19	49362.62	52145.75
Return on Equity (Pre-tax) (pro-rata)	9763.92	26054.73	6709.09	35037.61	49362.62	52145.75

Interest on loan

92. 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 decapitalization 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.”

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

- (i) As stated above the gross normative loan of Rs.294603.24 lakh and Rs.572004.78 lakh, has been considered as on COD of Unit-I & Unit-II, respectively.
- (ii) Cumulative repayment of 'nil' and Rs.34641.77 lakh, has been considered as on COD of Unit-I & Unit-II, respectively.
- (iii) Addition to the normative loan on account of additional capital expenditure approved above, has been considered.
- (iv) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2019-24.
- (v) The weighted average rate of interest (WAROI) claimed by the Petitioner for the period 2019-24 is considered for the purpose of tariff. The Petitioner is directed to certify that the rate of interest claimed towards individual loans in Form-13 are the actual applicable rates and does not include any additional markup towards sharing of saving due to refinancing, if any, at the time of truing up of tariff.

94. Accordingly, interest on loan, is worked out and allowed as under:



(Rs. in lakh)

	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Gross opening loan (A)	294603.24	313556.30	333812.22	572004.78	587684.85	638802.72
Cumulative repayment of loan upto previous year/period (B)	0.00	7932.44	29155.68	34641.77	63292.37	103656.67
Net Loan Opening (C) = (A) - (B)	294603.24	305623.85	304656.54	537363.00	524392.48	535146.04
Addition due to additional capital expenditure (D)	18953.06	20255.92	996.82	15680.08	51117.86	18033.12
Repayment of loan during the period (E)	7932.44	21223.24	5486.09	28650.60	40364.30	42640.09
Repayment adjustment on account of de-capitalization (F)	0.00	0.00	0.00	0.00	0.00	0.00
Net Repayment of during the year (G) = (E) - (F)	7932.44	21223.24	5486.09	28650.60	40364.30	42640.09
Net Loan Closing (H) = (C) + (D) - (G)	305623.85	304656.54	300167.27	524392.48	535146.04	510539.07
Average Loan (I) = (C+H)/2	300113.55	305140.20	302411.90	530877.74	529769.26	522842.56
Weighted Average Rate of Interest on loan (J)	5.3830%	4.8866%	4.8624%	4.8763%	4.7971%	4.6930%
Interest on Loan (K) = (I) x (J) - (annualized)	16155.11	14910.98	14704.48	25887.19	25413.56	24537.00
Interest on loan (L) (pro-rata)	6444.39	14910.98	3666.05	19433.12	25413.56	24537.00

Depreciation

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

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

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall



be allowed up to maximum of 90% of the capital cost of the asset:

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

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

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

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

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

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

Provided that the remaining depreciable value as on 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.

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

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

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

96. The Petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 4.58% for the period from COD of Unit-I to 31.3.2020, 4.59% for 2020-21, and 4.61% for the period from COD of Unit-II to 31.3.2024. The Petitioner has furnished Form-11 in support of its WAROD claim. However, the details of the Gross Block, considered in Form-11, do not match with the Gross Block as per IGAAP, as on the various dates. Accordingly, the Petitioner is directed to furnish the revised Form-11, considering the Gross Block, as per IGAAP numbers, for working out WAROD. For the present, WAROD has been worked out, based on the details in Form-11. Accordingly, WAROD of 4.5777% for the period from COD of Unit-I to 31.3.2020, 4.5897% for the year



2020-21, and 4.6075% for the period from COD of Unit-II to 31.3.2024, has been considered for the purpose of tariff. Further, the value of freehold land, as considered (at Form-12) by the Petitioner, for working out the depreciable value, is at variance with the same as per Form-B. However, for the present, the value of freehold land, as per Form-B has been considered for working out the depreciable value. Further, the Petitioner is directed to revise Form-B/ Form-12, incorporating the true value of freehold land, along with the justification for the aforesaid variation, and also submit revised Form-11, at the time of truing up of the tariff. Accordingly, depreciation has been worked out and allowed as under:

	<i>(Rs. in lakh)</i>					
	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Average capital cost (A)	434399.67	462406.08	477586.61	828349.73	876062.55	925456.11
Value of freehold land included above (B)	70505.64	70505.64	70505.64	78545.97	78545.97	78545.97
Aggregated depreciable value [C = (A-B) x 90%]	327537.70	352743.48	366408.20	674869.00	717810.53	762264.74
Balance useful life of the at beginning of the year (D)	25.00	24.80	24.30	24.18	23.43	22.43
WAROD (E)	4.8166%	4.8137%	5.0034%	5.0035%	5.0035%	5.0035%
Remaining depreciable value (F)	327537.70	344811.03	337252.52	640227.23	654518.16	658608.06
Depreciation (for the period) (G = A x E x No. of days during the period / No. of days during the year)	7932.44	21223.24	5486.09	28650.60	40364.30	42640.09
Depreciation (H) - (annualized)	19885.44	21223.24	22004.65	38165.95	40364.30	42640.09
Cumulative depreciation (at the end of the period) (I = G + 'I' of previous year/period)	7932.44	29155.68	34641.77	63292.37	103656.67	146296.77

Operation and Maintenance Expenses

97. The Petitioner has claimed the O&M Expenses as under:



	(Rs. in lakh)					
	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
O&M expenses under Reg 35(1)	13371.60	13840.20	14328.60	28657.20	29660.40	30703.20
O&M expenses under Reg 35(6)						
Water Charges	168.59	141.69	154.62	189.73	279.72	279.72
Security expenses	1126.54	1505.30	1830.74	2621.43	2999.21	3104.18
Capital Spares Consumed	-	-	-	-	-	-
Total O&M Expenses	14666.73	15487.19	16313.96	31468.36	32939.33	34087.10
Additional O&M Expenses						
Ash Transportation Expenses	2144.57	0.00	0.00	3942.43	20752.50	14890.50
O&M expenses- ECS (FGD)	-	-	-	0.00	1117.42	1273.94
Total O&M Expenses including the addl O&M Exp.	16811.30	15487.19	16313.96	35410.79	54809.25	50251.54

98. Regulation 35(1)(1) of the 2019 Tariff Regulations provides the following O&M norms for coal-based generating stations of 600 MW series and above capacity:

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

99. Accordingly, the Petitioner has claimed the following O&M expenses:

(Rs. in lakh)					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
13371.60	13840.20	14328.60	28657.20	29660.40	30703.20

100. It is noticed that the claims of the Petitioner for O&M Expenses under Regulation 35(1) of Tariff Regulations, 2019 are in line with the O&M expense norms and are on an annualized basis. Accordingly, the O&M expenses claimed by the Petitioner are allowed.

Water Charges

101. Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

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

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

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;

Provided also that the generating station shall submit the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification for



incurring the same and substantiating that the same is not funded through compensatory allowance as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

102. In terms of the above 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 a prudence check of the details furnished by the Petitioner. The details furnished by the Petitioner in respect of claimed water charges are as under:

	Remarks
Type of Plant	Coal
Type of cooling water system	Closed Circuit Cooling System
Allocation of Water	40 Cusec
Rate of Water charges	Royalty – Rs. 6 Lakh/Cusec/year Water charges- Rs.12.48/1000 Cubic Feet

103. The Petitioner vide affidavit dated 30.6.2023 submitted the actual water charges (annualized) for the years 2019-20, 2020-21, and 2021-22, duly certified by the auditor. Further, the Petitioner vide affidavit dated 30.6.2023, claimed water charges for Rs.279.72 lakh in 2022-23, stating it to be on an actual basis, and has claimed the same amount for 2023-24, based on the water charges for 2022-23 as per the table below:

(Rs in lakh)					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
168.59	141.69	154.62	189.73	279.72	279.72

104. It is noticed that the water charges amount for Rs.279.72 lakh claimed above has not been supported by any Auditor Certificate. However, it is observed that the actual water charges of Rs.279.72 lakh claimed are less than the calculated water charges, based on the ceiling normative water consumption of 3.0 M³/MWH, and the rates being charged by the U.P. Government. As such, we allow the claim of the Petitioner towards water charges for the present.



Capital Spares

105. The Petitioner has not claimed any capital spares on a consumption basis, and hence, the same has not been considered in this order.

Security Expenses

106. The Security expenses claimed by the Petitioner are as under:

<i>(Rs. in lakh)</i>					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
1126.54	1505.30	1830.74	2621.43	2999.21	3104.18

107. The Petitioner vide affidavit dated 30.6.2023 submitted that the actual security expenses for the period from COD of Unit-I to 31.3.2020, 2020-21, 1.4.2020 to COD of Unit-II, and COD of Unit-II to 31.3.2022 as Rs.1126.54 lakh, Rs.1505.3 lakh, Rs.1830.74 lakh, Rs.2621.43 lakh and Rs.2999.21 lakh respectively. Further, the Petitioner has furnished an Auditor Certificate for the said security expenses from Unit-I COD to 31.3.2022 and for the relevant periods. Since the Petitioner has furnished the actual security expenses incurred for the period from 2019-20 to 2022-23, the same are allowed. Also, the security expenses for the year 2023-24 are allowed, after escalation of 3.5% per annum over the previous year (2022-23) on a projection basis, which works out as Rs.3104.18 lakh. Accordingly, the security expenses claimed as above, for the generating station, are allowed.

O&M expenses- ECS (FGD)

108. It is observed that the Petitioner has claimed amounts for Rs . 1117.42 lakh and Rs . 1273.94 lakh towards O&M expenses towards ECS (FGD) in 2022-23 and 2023-24 on a projection basis. In our view, the O&M expenses claimed towards ECS (FGD) are provisional, and the Petitioner has also not implemented the same. Accordingly, the



claim of the Petitioner is not considered 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, with relevant details, at the time of truing up of tariff, and the same will be considered in accordance with law.

Ash Transportation Charges

109. In addition to the above expenses, the Petitioner vide affidavit dated 12.4.2021 has claimed the additional expenditure towards Fly Ash Transportation. In support of the claim, the Petitioner has submitted that the MoEF&CC Notification dated 25.1.2016 mandated that the transportation cost of the Fly Ash generated at the power stations shall be borne by the generating station and the users. The Petitioner has further submitted that in Petition No. 172/MP/2016 filed by the Petitioner in respect of ash transportation charges subsequent to the MOEF&CC Notification dated 25.1.2016, the Commission admitted that the actual additional expenditure incurred by the Petitioner towards transportation of ash in terms of the MOEF&CC Notification is admissible under "change in law" as additional O&M expenses. The Petitioner vide affidavit dated 13.5.2021 has furnished the actual Ash transportation charges incurred during 2019-20 and 2020-21, in compliance of the Commission order dated 5.11.2018 in Petition No. 172/ MP/2016 and has prayed to allow the reimbursement of the Ash transportation charges for the years 2019-20 and 2020-21, and allow further recovery of Ash Transportation charges provisionally on monthly basis, on self-certification. The Ash transportation charges claimed vide affidavit dated 30.6.2023 is as under:

<i>(Rs. in lakh)</i>					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
2144.57	0.00	0.00	3942.43	20752.50	14890.50

110. The matter has been examined. The Commission, vide its order dated 5.11.2018



in Petition No. 172/MP/2016, decided that the MOEF&CC Notification dated 25.1.2016 for additional cost towards fly ash transportation is a 'change in law' event. It is however observed that the Commission vide its order dated 28.10.2022 in Petition No. 205/ MP/ 2021 filed by the Petitioner for recovery of additional expenditure incurred due to Ash transportation charges consequent to the MOEF&CC, GOI Notification dated 3.11.2009 and Notification dated 25.1.2016 on a recurring basis, allowed the expenditure incurred towards the fly ash transportation expenses for the years 2019-20, 2020-21 and 2021-22 as under:

"39. Petitioner has furnished the details of the distance to which fly ash has been transported from the generating station, schedule rates applicable for transportation of fly ash, as notified by the State Governments along with details, including Auditor certified accounts. These documents have been examined and accordingly, the total fly ash transportation expenditure allowed to the Petitioner generating station wise for the period 2019-22 is as per the table in para 38 above totaling to Rs.309704.03 lakh and the same shall be recovered from the beneficiaries of the respective generating stations in 6 (six) equal monthly instalments. However, the Petitioner is directed to submit details regarding award of transportation contracts, distance to which fly ash has been transported along with duly reconciled statements of expenditure incurred on ash transportation at the time of filing petitions for truing up of tariff for the 2019-24 tariff period of the generating stations."

111. The Commission, in the said order also observed as under:

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

112. Since the claim of the Petitioner had been considered and disposed of by the Commission vide order dated 28.10.2022 as above, the claim of the Petitioner shall be governed by the findings of the Commission in the said order.

113. Accordingly, the total O&M expenses, including water charges and security expenses, claimed by the Petitioner and allowed for the period 2019-24, are summarised



below:

(Rs in lakh)							
		2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Installed Capacity		660	660	660	1320	1320	1320
O&M Expenses under Reg.35(1) in Rs lakh / MW (B)	Claimed	20.26	20.97	21.71	21.71	22.47	23.26
	Allowed	20.26	20.97	21.71	21.71	22.47	23.26
Total O&M Expenses as per Reg 35 (1) (in Rs lakh) (C) = (A)*(B)	Claimed	13371.60	13840.20	14328.60	28657.20	29660.40	30703.20
	Allowed	13371.60	13840.20	14328.60	28657.20	29660.40	30703.20
Water Charges (D)	Claimed	168.59	141.69	154.62	189.73	279.72	279.72
	Allowed	168.59	141.69	154.62	189.73	279.72	279.72
Security Expenses (E)	Claimed	1126.54	1505.30	1830.74	2621.43	2999.21	3104.18
	Allowed	1126.54	1505.30	1830.74	2621.43	2999.21	3104.18
O&M expenses- ECS (FGD) (F)	Claimed				-	1117.42	1273.94
	Allowed	-	-	-	-	-	-
Ash Transportation Expenditure (G)	Claimed	2144.57	-	-	3942.43	20752.50	14890.50
	Allowed	-	-	-	-	-	-
Total O&M Expenses (H) = (C+D+E+F+G) (Annualized)	Claimed	16811.30	15487.19	16313.96	35410.79	54809.25	50251.54
	Allowed	14666.73	15487.19	16313.96	31468.36	32939.33	34087.10

Operational Norms

114. The operational norms in respect of the generating station, i.e., normative annual plant availability factor, gross station heat rate, specific fuel oil consumption, and auxiliary power consumption, are discussed below:

Normative Annual Plant Availability Factor (NAPAF)

115. In terms of Regulation 49(A)(a) of the 2019 Tariff Regulations, the Petitioner has considered NAPAF of 85% during the period 2019-24, and the same is allowed.

Gross Station Heat Rate (kCal/kWh)

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

“b) Thermal Generating Stations achieving COD on or after 1.4.2009:

(i) For Coal-based and lignite-fired Thermal Generating Stations:

1.05 X Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero per cent 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 the pressure and temperature parameters of a unit are different from the above ratings, the maximum design heat rate of the unit of the nearest class shall be taken:

Provided also that where the 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 the 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 the maximum turbine cycle heat rate shall be adjusted for the 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.”

117. In terms of Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, the Petitioner has claimed the GSHR of 2229.76 kCal/kWh and submitted that in respect of units declared after 31.3.2009, the Commission has prescribed the norms for boiler efficiency and turbine heat rate separately, for deriving the unit heat rate, wherein, the unit heat rate is not guaranteed by the supplier(s). It has submitted that for the SG and TG packages, in the generating station, the Notice Inviting Tender (“NIT”) was issued during the period 2009-14 (SG: 22.03.2011 & TG 17.10.2013) and the equipment including SG and TG specifications for tendering/award was stipulated, considering the boiler efficiency and the turbine heat rate specified under the Tariff Regulations prevalent at that time, and based on the same, the equipment were ordered through international competitive bidding. The Petitioner has further submitted that it was not possible for the Petitioner to specify the efficiency parameters at the time of finalizing the contracts in the generating station as per the efficiency parameters specified in the subsequent Tariff Regulations or the 2019 Tariff Regulations, which are more stringent. The Petitioner has also stated that if it had stipulated a more stringent unit heat rate, this would have increased the capital cost commensurate with the efficiency parameters sought. It has been submitted that the benefit of the lower capital cost due to lower efficiency parameters has already been passed onto the beneficiaries in terms of lower capital cost. Therefore, the Petitioner



has pointed out that if the boiler efficiency for working out the normative heat rate is considered as 86% instead of the actual design efficiency of 85.61%, the unit heat rate would be worked out to be 2219.65 kcal/kwh and the operating margin available over the design heat rate would be 4.52% only, which is less than the operating margin of 5% allowed in the 2019 Tariff Regulations. The Petitioner has, therefore, prayed to allow the Gross Station Heat Rate (GSHR), based on the guaranteed turbine cycle heat rate of 1818 kcal/kwh and the design boiler efficiency of 85.61%, with an operating margin of 5% from the guaranteed design value.

118. The matter has been considered. It is observed that the Commission has specified the terms and conditions for the determination of tariff and fixed the minimum boiler efficiency norm as 86%, including the operational norms, applicable for the period from 1.4.2019, after considering the comments/suggestions of the stakeholders. In our considered view, the operational norms specified under Regulation 49(C)(a) of the 2019 Tariff Regulations cannot be categorized as unreasonable, so as to justify the exercise of power to relax. Further, the Petitioner has prayed for relaxation of the heat rate norms under Regulation 49(C)(b) of 2019 Tariff Regulations, by considering the lower boiler efficiency of less than 86%, only on the premise that its units are not being able to meet the norms prescribed in the 2014 Tariff Regulations. In our considered view, the Petitioner, through better and improved O&M practices, can achieve the boiler efficiency of 86% as specified under the 2014 Tariff Regulations. Therefore, we do not find any justification to relax the Heat rate norms. In our view, there is no merit in the submissions of the Petitioner to grant the relief prayed for.

119. Based on the above discussions, the prayer of the Petitioner is rejected and the GSHR in accordance with Regulation 49(C)(b) of the 2019 Tariff Regulations, is



calculated as under:

a. Guaranteed Turbine Cycle Heat Rate indicated in Form-2 of the Tariff Forms is 1818 kCal/kWh, and design boiler efficiency is 85.61% as submitted by the Petitioner vide Form-2. As claimed, the boiler efficiency is less than 86%. Accordingly, the boiler efficiency is considered to be 86% for the determination of the allowable GSHR. Accordingly, the design heat rate of the generating station is 2219.65 kCal/kWh (2113.95×1.05).

120. Hence, the GSHR of 2219.65 Kcal/kWh is considered as per Regulation 49(c)(b) of the 2019 Tariff Regulations.

Specific Oil Consumption

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

Auxiliary Energy Consumption

122. In terms of Regulation 49(E)(a) of the 2019 Tariff Regulations, the Petitioner has considered the auxiliary energy consumption of 5.75%, and the same is allowed.

Interest on Working Capital

123. 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) xxxx

(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

124. Regulation 34(2) of the 2019 Tariff Regulations provides that the computation of the cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals, for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined. Regulations 3(31), 3(41), and 38 of the 2019 Tariff Regulations provide as under:

“3(31) ‘GCV as Received’ means the GCV of coal as measured at the unloading point of the thermal generating station through collection, preparation and testing of samples from the loaded wagons, trucks, ropeways, Merry-Go-Round (MGR), belt conveyors and ships in accordance with the IS 436 (Part-1/ Section 1)- 1964: *Provided that the measurement of coal shall be carried out through sampling by third party to be appointed by the generating companies in accordance with the guidelines, if any, issued by Central Government: Provided further that samples of coal shall be collected either manually or through hydraulic augur or through any other method considered suitable keeping in view the safety of personnel and equipment: Provided also that the generating companies may adopt any advance technology for collection, preparation and testing of samples for measurement of GCV in a fair and transparent manner;*

3(41) ‘Landed Fuel Cost’ means the total cost of coal (including biomass in case of co-firing), lignite or the gas delivered at the unloading point of the generating station and shall include the base price or input price, washery charges wherever applicable, transportation cost (overseas or inland or both) and handling cost, charges for third party sampling and applicable statutory charges;

38. Landed Fuel Cost of Primary Fuel: The landed fuel cost of primary fuel for any month shall consist of base price or input price of fuel corresponding to the grade and quality of fuel and shall be inclusive of statutory charges as applicable, washery charges, transportation cost by rail or road or any other means and loading, unloading and handling charges: *Provided that procurement of fuel at a price other than Government notified prices may be considered, if it is based on competitive bidding through transparent process; Provided further that landed fuel cost of primary fuel shall be worked out based on the actual bill paid by the generating company including any adjustment on account of quantity and quality; Provided also that in case of coal-fired or lignite based thermal generating station, the Gross Calorific Value shall be*



measured by third party sampling and the expenses towards the third-party sampling facility shall be reimbursed by the beneficiaries.

125. 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:

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

xxxx

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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

(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio: CVSF = Calorific value of secondary fuel, in kCal per ml;

ECR = Energy charge rate, in Rupees per kWh sent out; SHR = Gross station heat rate, in kCal per kWh;

LC = Normative limestone consumption in kg per kWh;

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

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

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

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

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

126. Regulation 39 of the 2019 Tariff Regulations provides as under:

“39. Transit and Handling Losses: For coal and lignite, the transit and handling losses shall be as per the following norms: - Thermal Generating Station Transit and Handling Loss (%) Pit Head 0.2 Non-pithead 0.8 Provided that in case of pit-head stations, if coal or lignite is procured from sources other than the pit-head mines which is transported to the station through rail, transit and handling losses applicable for non-pit head station shall apply; Provided further that in case of imported coal, the transit and handling losses applicable for pit-head station shall apply.”

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

a. Operational norms as per 2019 Tariff Regulations.

b. Price and “as received” GCV of coal (after reducing the same by 85 kCal/kWh



in terms of above-quoted Regulation) procured or the three months before COD of Unit-I August, 2019, September, 2019 and October, 2019, and three months preceding to COD of Unit-II i.e., for April 2021, May, 2021, June, 2021. Also, for 2020-21 and 2021-22 (From 01.04.21 to Unit-II COD) Price and “as received” GCV of coal of third quarter of previous financial years that is Oct, Nov, Dec of 2019 and Oct, Nov, Dec 2020 has been considered.

c. Price and GCV of secondary fuel oil for the three months for the respective periods as mentioned at point no ‘b’ above.

128. The Petitioner has also claimed the supplementary Energy Charges Rate in 2022-23 and 2023-24, in anticipation of the commissioning of FGD. Since the O&M charges on account of FGD commissioning have not been permitted in this order (as in para 108 above), the supplementary ECR has also not been considered for similar reasons.

129. The Petitioner has claimed the Energy Charge Rate (ECR) ex-bus of 235.73 paise/kWh from 7.11.2019 (COD of Unit-I) till 31.3.2020, 247.86 paise/kWh from 1.4.2020 to 31.03.2021, 263.35 paise/kWh from 1.4.2021 to 30.6.2021 (COD of Unit-II), 266.14 paise/kWh from 1.7.2021 (COD of Unit-II) till 31.3.2024 for the generating station, based on the GCV and price of fuel (coal and secondary fuel oil) prevailing during the relevant three months as specified at para 146 . The summary of ECR claimed by the Petitioner is as under:

(paise/kWh)					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
235.73	247.86	263.35	266.14	266.14	266.14

130. As regards the details of coal for computation of the Energy charges, the Petitioner vide affidavit dated 30.6.2022, has furnished the Auditor Certified Form-15 for the months of August, 2019 to October, 2019, October-December, 2020 and April-June, 2021 in support of Price and GCV of Coal and Secondary Fuel Oil for the respective years. However, for the months of November and December, 2019, the Petitioner has not furnished the Auditor Certified Form-15. In its absence, the Petitioner has, however,



provided a signed copy of Form-15, for these two months, and the same is considered for the working of ECR of the respective period. The cost of 'reagent' has not been considered in the calculation of the working capital, since the same is on a tentative basis and the Petitioner is at liberty to approach the Commission, with the actual amount at the time of truing-up of tariff, after commissioning of the FGD system. It is observed that the Petitioner has claimed the Weighted Average Price and GCV of coal, including the opening coal stock and value, but, in terms of Regulation 34(2), the opening stock and its value have not been considered for arriving at the weighted average price and GCV of coal. The Petitioner has used the Price and GCV of coal and secondary fuel oil of the months of April and June 2021 (as submitted for working of ECR at Unit-II COD) for the working of ECR for 2022-23 and 2023-24. The Petitioner is, therefore, directed to furnish the Weighted Average Price and GCV of coal as per Regulation 34(2) of the 2019 Tariff Regulations for the third quarter of the previous year, at the time of truing-up of tariff. In view of the above, the following Weighted Average Price and GCV of coal have been considered for the purpose of tariff after excluding the opening stock and its value as provided at Form-15 of respective periods:

	2019-20 (7.11.2019 to 31.3.2020)		2020-21 (1.4.2020 to 31.3.2021)		2021-22 (1.4.2021 to 30.6.2021)		2021-22 (1.7.2021 to 31.3.2022)	
	Claimed	Allowed	Claimed	Allowed	Claimed	Allowed	Claimed	Allowed
Weighted average price of coal (Rs./MT)	3680.17	3638.24	3882.87	3883.87	3755.25	3718.96	4000.37	3991.41
Weighted average as received GCV of coal (kCal/kg)	3794.27	3703.31	3805.99	3805.99	3464.16	3514.90	3651.20	3715.48

131. Accordingly, the rate of energy charges, based on the operational norms, as approved above, is determined as under:

SI No	Particulars	UOM	(Rs. in lakh)					
			2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
1	Capacity	MW	660	660	660	1320	1320	1320



2	Gross Station Heat Rate	Kcal/kWh	2219.65	2219.65	2219.65	2219.65	2219.65	2219.65
3	Auxiliary Power Consumption	%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%
4	Secondary Fuel Oil Consumption	mL/kWh	0.5	0.5	0.5	0.5	0.5	0.5
5	Weighted Average GCV of Oil	kCal/L	9231.49	9149.00	9266.78	9310.00	9310.00	9310.00
6	Weighted Average GCV of Coal (as received)	kCal/kg	3703.30	3805.69	3514.90	3715.48	3715.48	3715.48
	Weighted Average GCV of Coal after adjustment of 85 kcal/kg in terms of Regulation	kCal/kg	3618.30	3720.69	3429.90	3630.48	3630.48	3630.48
7	Weighted Average price of oil	Rs/KL	48218.13	49337.59	41107.01	47309.57	47309.57	47309.57
8	Weighted Average price of coal	Rs/MT	3638.24	3883.87	3718.96	3991.41	3991.41	3991.41
9	Rate of energy charge ex-bus	Rs/kWh	2.389	2.479	2.570	2.609	2.609	2.609

132. Considering the above, the cost of the fuel component in working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>					
	2019-20 (7.11.2019 to 31.3.2020)	2020- 21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Cost of Coal for stock (20 days generation corresponding to NAPAF)	5997.50	6226.37	6467.27	13115.04	13115.04	13115.04
Advance towards the cost of Coal for generation (30 days generation corresponding to NAPAF)	8996.25	9339.55	9700.91	19672.56	19672.56	19672.56
Cost of Secondary fuel oil (2 months per annum corresponding to NAPAF)	198.01	202.05	168.35	387.49	387.49	388.56



Maintenance Spares

133. The Petitioner has claimed the maintenance spares in the working capital on an annualized basis, as under:

<i>(Rs. in lakh)</i>					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
3362.26	3097.44	3262.79	7082.16	10961.85	10050.31

134. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provides for the maintenance spares @ 20% of the O&M expenses (including water charges and security expenses). However, it is observed that the Petitioner has also included Ash Transportation charges in working capital, which is not permissible as per Regulation 34(1) (a)(iv). Accordingly, the maintenance spares @20% of the O&M expenses (including water charges, and security expenses) is allowed as under:

<i>(Rs. in lakh)</i>					
2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
2933.35	3097.44	3262.79	6293.67	6587.87	6817.42

Receivables

135. 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:

<i>(Rs. in lakh)</i>						
	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Variable Charges- 45 days	13642.19	14156.13	14675.78	29796.97	29796.97	29796.97
Fixed Charges- 45 days	9888.97	10203.39	10460.85	18717.14	19457.31	20244.88
Total	23531.17	24359.52	25136.63	48514.10	49254.28	50041.85

O&M Expenses (1 month)

136. The Petitioner has claimed the O&M expenses for 1 month in the working capital



on annualized basis, as under:

(Rs. in lakh)

2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
1400.94	1290.60	1359.50	2950.90	4567.44	4187.63

137. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provides for the O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses). However, it is observed that the Petitioner has also included the Ash Transportation charges in working capital, which is not permissible as per Regulation 34(1) (a)(iv). Accordingly, the O&M expenses, equivalent to 1 month of the O&M expenses (including water charges and security expenses) is allowed as under:

(Rs. in lakh)

2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
1222.23	1290.60	1359.50	2622.36	2744.94	2840.59

Rate of Interest on Working Capital

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

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

(Rs. in lakh)

	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Cost of Coal towards Stock - (20 days generation corresponding to NAPAF) (A)	5997.50	6226.37	6467.27	13115.04	13115.04	13115.04



	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Cost of Coal towards Generation – (30 days generation corresponding to NAPAF) (B)	8996.25	9339.55	9700.91	19672.56	19672.56	19672.56
Cost of Secondary fuel oil - (2 months generation corresponding to NAPAF) (C)	198.01	202.05	168.35	387.49	387.49	388.56
Maintenance Spares @ 20% of O&M expenses (D)	2933.35	3097.44	3262.79	6293.67	6587.87	6817.42
Receivables – (45 days of sale of electricity at NAPAF) (E)	23521.24	24349.93	25127.14	48500.67	49241.09	50028.96
O&M expenses - 1 month (F)	1222.23	1290.60	1359.50	2622.36	2744.94	2840.59
Total Working Capital (G = A+B+C+D+E+F)	42868.58	44505.94	46085.96	90591.81	91749.00	92863.13
Rate of Interest (H)	12.05%	11.25%	10.50%	10.50%	10.50%	12.00%
Interest on Working capital (I = G x H) – (annualized)	5165.66	5006.92	4839.03	9512.14	9633.65	11143.58
Interest on Working capital (J) – (pro-rata)	2060.62	5006.92	1206.44	7140.62	9633.65	11143.58

Annual Fixed Charges for the period 2019-24

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

	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Depreciation	19885.44	21223.24	22004.65	38165.95	40364.30	42640.09
Interest on Loan	16155.11	14910.98	14704.48	25887.19	25413.56	24537.00
Return on Equity	24476.68	26054.73	26910.10	46674.19	49362.62	52145.75
Interest on Working Capital	5165.66	5006.92	4839.03	9512.14	9633.65	11143.58
O&M Expenses	14666.73	15487.19	16313.96	31468.36	32939.33	34087.10
Total (annualized)	80349.63	82683.06	84772.21	151707.83	157713.46	164553.52
Total (pro-rata)	32052.04	82683.06	21134.99	113884.78	157713.46	164553.52

Note: (1) All figures (except for total on pro-rata basis) 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.

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



	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	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	146	365	91	274	365	366

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

Summary

143. The summary of the annual fixed charges claimed and approved are as under:

<i>(Rs. in lakh)</i>						
Annual Fixed Charges	2019-20 (7.11.2019 to 31.3.2020)	2020-21	2021-22 (1.4.2021 to 30.6.2021)	2021-22 (1.7.2021 to 31.3.2022)	2022-23	2023-24
Claimed	82644.52	82760.89	84935.43	156326.62	181209.69	180691.87
Allowed	80349.63	82683.06	84772.21	151707.83	157713.46	164553.52

Application Fee and Publication Expenses

144. The Petitioner has sought the reimbursement of the filing 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.

145. 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.



146. Petition No. 281/GT/2020 is disposed of in terms of the above.

Sd/-
(Harish Dudani)
Member

Sd/-
(Ramesh Babu V.)
Member

Sd/-
(Jishnu Barua)
Chairperson

