

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 263/MP/2024

Coram:

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

Date of Order: 16th August, 2025

In the matter of:

Petition under Section 79(1)(b) of the Electricity Act, 2003 read with Article 10 of the Case-1 long-term Power Purchase Agreement dated 27.11.2013 along with Addendum No. 1 dated 20.12.2013, as well as the Order of this Commission dated 13.08.2021 in Petition No. 06/SM/2021 and Order dated 08.01.2024 in Petition No. 261/MP/2022, seeking approval of the final Capital Cost of the De-NO_x System and the Auxiliaries and determination of the Supplementary Tariff on account of the same.

And

In the matter of:

Dhariwal Infrastructure Limited,
Registered Office: CESC House,
Chowringhee Square,
Kolkata-700001, West Bengal.

...Petitioner

Vs.

Tamil Nadu Generation and Distribution Corporation Limited,
6th Floor, Eastern Wing, 144, Anna
Salai, Chennai-600002.

...Respondent

For Petitioner : Ms. Divya Chaturvedi, Advocate, DIL
Ms. Srishti Rai, Advocate, DIL
Ms. Rikit Shahi, Advocate, DIL
Shri Shubhayu Sanyal, DIL

For Respondents : Ms. Anusha Nagrajan, Advocate, TANGEDCO
Ms. Akanksha Bhola, Advocate, TANGEDCO

ORDER

Dhariwal Infrastructure Limited (DIL) has filed the instant Petition under Section 79(1)(b) of the Electricity Act, 2003 (in short' the Act') read with Article 10 of the Case-1



long-term Power Purchase Agreement (UPPA) dated 27.11.2013 along with Addendum No. 1 dated 20.12.2013 (hereinafter collectively referred to as the TANGEDCO PPA) entered into between the Petitioner and the Respondent, Tamil Nadu Generation and Distribution Corporation Limited (Respondent/TANGEDCO), as well as the Order of this Commission dated 13.8.2021 in Petition No. 06/SM/2021 and the Order dated 8.1.2024 in Petition No. 261/MP/2022 for an approval of the additional Capital Expenditure incurred by the Petitioner on account of installation of NO_x Abatement (De-NO_x) system and determination of the Supplementary Tariff for recovery of the compensation from the Respondent in line with the mechanism as stipulated by this Commission in its aforementioned Order dated 13.8.2021.

2. The Petitioner has made the following prayers in the instant Petition:

“Admit the present petition:

a. Approve the Capital Cost of ₹ 13.46 Crores for installation of the Combustion Modification process including modification of existing burners to Low-NO_x design, adoption of new Separated Over Fire Air system with its nozzles, dampers and actuators and Low Excess Air Firing for 300 MW Unit 2 of the Generating Station for meeting the revised emission norms in respect of NO_x as per the Amendment Rules;

b. Approve the proposed Compensation/Supplementary Tariff for the supply of 100 MW power to the Respondent/TANGEDCO based on the approved Capital Cost in terms of the prescribed norms under the Order dated 13.08.2021 for the De-NO_x system installed in Unit 2 of the Project;

c. Allow the Petitioner to recover the Carrying Cost on the revenue gap accrued on account of the lag in realization of Supplementary Tariff from the OD_e till the date of issuance of final Order by this Commission;

d. Allow the Petitioner to raise Supplementary Energy Bills for recovery of compensation/Supplementary Tariff as determined by this Commission;

e. Direct the Respondent to make payments towards the Supplementary Energy Bills to be raised subsequently for recovery of compensation/Supplementary Tariff as determined by this Hon'ble Commission



towards installation of De-NO_x system in Unit 2 of the Project for supply of 100 MW Net Contracted Capacity to the Respondent, as per the Order dated 13.08.2021 passed by this Commission;

f. Condone any inadvertent omission/errors/shortcomings and permit the Petitioner to add/change/modify/alter the present pleading/petition and may also grant leave to the Petitioner to make appropriate submissions at any future date with respect to the present proceedings; and

g. Pass such other/further order(s) as this Commission may deem fit in the present facts and circumstances.”

Background

3. Background of the instant Petition is as follows:

a) The Petitioner, Dhariwal Infrastructure Limited (DIL), is a generating company within the meaning of Section 2(28) of the Act, operating a 2×300 MW coal-based thermal power plant at Tadali, Chandrapur, Maharashtra. The Respondent, Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), is a distribution licensee under Section 2(17) of the Act.

b) The Petitioner and the Respondent entered into a Power Purchase Agreement (TANGEDCO PPA) dated 27.11.2013 (along with Addendum No. 1 dated 20.12.2013) for the supply of 100 MW Net Contracted Capacity from Unit 2 of the Petitioner's generating station.

(c) On 30.11.2021, the Petitioner filed Petition No. 261/MP/2022 before this Commission seeking in-principle approval for additional capital expenditure required for the installation of a De-NO_x system in Unit 2, mandated due to a 'Change in Law' arising from the MoEFCC's Environment (Protection) Amendment Rules issued from 2015 to 2022, read with the directive of the Maharashtra Pollution Control Board (MPCB) dated 01.10.2021; and liberty to approach the Commission later for the



determination of compensation/supplementary tariff based on actual capital cost incurred.

c) The said 'Change in Law' event occurred after the cut-of date of 27.02.2013 as stipulated in the PPA, necessitating capital investment for continued supply under the contract. Vide Order dated 08.01.2024, the Commission disposed of Petition No. 261/MP/2022 as under:

- i. Recognized the promulgation of the Amendment Rules (2015 to 2022) and the MPCB letter dated 01.10.2021 as a 'Change in Law' under Article 10 of the TANGEDCO PPA;
- ii. Granted in-principle approval for the Petitioner's proposed installation of the De-NOx system in Unit 2, including combustion modifications, as approved by CEA;
- iii. Approved provisionally a base capital cost of ₹12.14 crores, subject to submission of actual NOx emission levels from the past three years;
- iv. Held that the Petitioner had followed a transparent bidding process, with GEPIIL being selected as the qualified contractor for the installation; and
- v. Granted liberty to the Petitioner to file a separate Petition after actual installation, for the determination of compensation/supplementary tariff based on actual capital cost incurred.

d) In line with the above directions, the Petitioner has now installed the De-NOx system and incurred the necessary capital expenditure. Accordingly, the Petitioner has approached this Commission for the determination of compensation and approval of supplementary tariff arising out of the said 'Change in Law'.

Submissions of the Petitioner

4. The Petitioner has mainly submitted as under:

(a) The Petitioner signed a PPA with TANGEDCO on 27.11.2013 for 100 MW from Unit 2, with an addendum added on 20.12.2013. Unit 2 began commercial



operations on 2.8.2014 and started supplying power to TANGEDCO on 16.12.2015 after Long-Term Access was operational. Separately, the Petitioner supplies the 187 MW to NPCL under a PPA dated 26.9.2014, approved by UPERC. A Petition has been filed with UPERC to determine the NPCL's share of costs for complying with environmental norms through the installation of the De-NOx system.

(b) The generating station, including Unit 2, was not originally equipped to meet the revised NOx emission standards of 450 mg/Nm³ introduced through amendments to environmental regulations. To comply, the Petitioner engaged Tata Consulting Engineers Ltd. (TCE) to study and recommend the optimal NOx abatement technology. TCE suggested implementing combustion modifications such as converting burners to a Low-NOx design, installing a Separated Over Fire Air system, and using Low Excess Air Firing. This proposal was submitted to the Central Electricity Authority (CEA), which approved the plan on 22.9.2021, and directed the Petitioner to approach the Appropriate Commission for further steps.

(c) Accordingly, the Petitioner filed Petition No. 261/MP/2022 before the Commission, seeking in-principle approval of the estimated capital expenditure for the De-NOx system. While the Petition was pending, the Petitioner conducted competitive bidding, finalized vendors, and submitted the discovered cost to the Commission vide an affidavit dated 31.5.2023. The Commission, by its order dated 8.1.2024, granted in-principle approval to the provisional base capital cost and permitted the Petitioner to approach it again for final approval and tariff revision upon commissioning.

(d) Subsequently, the Petitioner provided data on NOx emission levels from Unit 2 for the three-year period between October 2020 and September 2023 as under:

TABLE 1: DIL UNIT 2 - NOx EMISSION FOR OCTOBER 2020 TO SEPTEMBER 2023

DIL Unit 2 - NO _x emission (mg/Nm ³) for the period October 2020 to September 2023								
Month	Max	Min	Month	Max	Min	Month	Max	Min
Oct-20	482	200	Oct-21	696	224	Oct-22	1033	221
Nov-20	525	201	Nov-21	690	204	Nov-22	1034	203
Dec-20	535	200	Dec-21	1186	201	Dec-22	1017	213
Jan-21	564	200	Jan-22	696	207	Jan-23	1007	215
Feb-21	469	201	Feb-22	772	212	Feb-23	1058	203
Mar-21	581	203	Mar-22	747	202	Mar-23	1124	204
Apr-21	618	204	Apr-22	727	200	Apr-23	1040	209
May-21	694	211	May-22	735	206	May-23	1096	211
Jun-21	582	201	Jun-22	805	212	Jun-23	1036	209
Jul-21	609	212	Jul-22	794	204	Jul-23	1013	202
Aug-21	932	202	Aug-22	839	209	Aug-23	946	223
Sep-21	758	212	Sep-22	963	208	Sep-23	984	224

Note: The above monthly maximum and minimum NO_x emission values exclude periods of unit shutdown and instrument calibration.

(e) The De-NO_x system was commissioned on 30.11.2023, in compliance with the 31.12.2023 deadline set by environmental authorities. The Petitioner notified TANGEDCO of the commissioning on 1.12.2023, and confirmed that performance guarantee tests were conducted successfully. The Petitioner has requested the Commission to recognize 30.11.2023, as the Date of Operation (ODe) for the De-NO_x system.

Capital Cost Of De-Nox System Installed in Unit 2 of the Petitioner's Generating Station

(f) The De-NO_x system in Unit 2 was supplied, erected, and commissioned by vendors selected through competitive bidding. Initially, a capital cost of ₹15.14 crores was submitted (with a base cost of ₹12.14 crores), and the Commission had granted in-principle approval for the provisional base cost of ₹12.14 crores in its order dated 08.01.2024. This base cost excluded estimated taxes and duties of about ₹2.08 crores. Now, the final capital cost has been determined as ₹13.46 crores, which includes not only the base cost but also components such as initial spares, applicable taxes and duties, insurance, Interest During Construction (IDC), and Incidental Expenditure During Construction (IEDC). A detailed cost breakdown is provided in the accompanying table.

TABLE 2: DIL UNIT 2 - BREAK-UP OF FINAL CAPITAL COST OF DE-NO_x SYSTEM

DIL Unit 2 - Break-up of Capital Cost of the De-NO _x System			
Particulars	Annotation	Unit 2	
		₹ Crores	₹ Crores/MW
Hard Capital Cost			
Equipment & Material supply	A	6.43	0.021
Initial Spares	B	0.28	0.001
Total Hard Capital Cost of De-NO _x System	C = sum(A:B)	6.71	0.022
Soft Capital Cost			
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test - Service Cost	D	6.56	0.022
Engineering and Project Management cost	E	0.05	0.000
Total Base Capital Cost of De-NO _x System	F = sum(C,D,E)	13.32	0.044
Insurance	G	0.01	0.000
Incidental Expenses during Construction	H	0.04	0.000
IDC (@Rate of Interest 8.58%)	I	0.09	0.000
Total Soft Capital Cost of De-NO _x System	J = sum(D,E,G,H,I)	6.75	0.023
Total Capital Cost of De-NO _x System	K = C+J	13.46	0.045

(g) The capital cost of the De-NO_x system and auxiliaries (excluding IDC) has been certified by the Petitioner's auditors. As on 30.11.2023, the Petitioner incurred actual cash expenditure of ₹7.66 crores (including IDC). Additional liabilities were paid as follows: ₹1.60 crores by 31.12.2023 (end of Q3 FY 2023-24), ₹2.71 crores in Q4 FY 2023-24, and ₹0.25 crore in Q1 FY 2024-25. A remaining ₹1.24 crores is held as retention money, expected to be released by 30.9.2024 (end of Q2 FY 2024-25) upon fulfilment of contractual obligations by vendors. A table detailing actual and projected phasing of these payments is provided:

TABLE 3: DIL UNIT 2 - ACTUAL CASH EXPENDITURE AND PHASING OF LIABILITIES DISCHARGED

Phasing of Actual Cash Expenditure and Discharge of Liabilities of De-NO _x System - DIL Unit 2						
Particulars	Capital Cost (Acquisition Value)	Capitalized as on OD _e	Capitalized During Q3 FY 2023-24	Capitalized during Q4 FY 2023-24	Capitalized during Q1 FY 2024-25	Undischarged Liabilities - to be capitalized by Q2 FY 2024-25
Hard Capital Cost of De-NO _x System	6.71	4.42	0.86	0.89	0.02	0.52
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test - Service Cost	6.56	3.05	0.73	1.82	0.23	0.72
Engineering and Project Management cost	0.05	0.04	-	0.00	-	-
Insurance	0.01	0.01	-	-	-	-
Incidental Expenses during Construction	0.04	0.04	-	-	-	-
IDC (@Rate of Interest 8.58%)	0.09	0.09	-	-	-	-
Total Capital Cost of De-NO_x System	13.46	7.66	1.60	2.71	0.25	1.24

(h) A copy of the Auditors' Certificate verifying the actual cash expenditure and its phasing for the De-NO_x system and auxiliaries is attached.



Hard Capital Cost of the De-NOx system

(i) As demonstrated in Table 2 above, the Hard Capital Cost of the De-NOx system consists of the elements, namely cost of equipment and material supply and other related modifications, and cost of initial spares.

(j) The Petitioner has considered the cost of the elements (a) and (b) above based on the actual cash expenditure incurred till date, which works out to ₹ 6.19 Crores and the balance liabilities of ₹ 0.52 Crores, which is expected to be discharged by 30.09.2024. Accordingly, the total Hard Capital Cost of the De-NOx system, including Taxes and Duties, works out to ₹ 6.71 Crores, which translates to ₹ 0.022 Crore/MW of installed capacity of Unit 2.

Soft Capital Cost of the De-NOx system

(k) As demonstrated in Table 2 above, the Soft Capital Cost of the De-NOx system consists of the following elements:

- a) Cost of Dismantling, Removal, Installation, Erection, Commissioning, Performance Guarantee Test and Reliability Run Test or Service Cost;
- b) Engineering and Project Management cost;
- c) Insurance;
- d) Incidental Expenses During Construction; and
- e) IDC.

(l) **Cost of Dismantling, Removal, Installation, Erection, Commissioning, Performance Guarantee Test and Reliability Run Test or Service Cost:** The service costs relate to the services rendered by various vendors and the same works out to ₹ 6.56 crores, including taxes and duties. Out of the above, ₹ 5.84 crores have been capitalized till date based on actual cash expenditure, and the balance of ₹ 0.72 crores shall be capitalized by 30.09.2024.

(m) **Engineering & Project Management:** The costs for consultancy furnished by the competent vendors towards Engineering & Project Management works out to ₹ 0.05 crores, and the same has been capitalized during Q4 FY 2023-24. The Hard Capital Cost, along with Service Cost and the cost of Engineering & Project Management form



the Base Capital Cost of the De-NO_x system. The actual cash expenditure towards the Base Capital Cost incurred till date works out to ₹ 12.08 crores, and the balance liabilities of ₹ 1.24 crores are expected to be discharged by 30.09.2024. Accordingly, the Base Capital Cost of the De-NO_x system, including Taxes and Duties, works out to ₹ 13.32 crores and translates to ₹ 0.044 crore/MW of installed capacity of Unit 2. The above Base Capital Cost at ₹ 13.32 crores, including Taxes & Duties, and the undischarged liabilities, is lower than ₹ 14.22 crores as proposed by the Petitioner in Petition No. 261/MP/2022 (out of which ₹ 12.14 crores were approved in principle by Commission vide its Order dated 08.01.2024, and the taxes & duties were estimated at ₹ 2.08 crores).

(n) **Insurance:** The Petitioner had procured insurance coverage for the erection, commissioning, and testing period towards material damage and third-party liability amounting to ₹ 0.01 crores, and the same has been capitalized on OD_e.

(o) **IEDC:** The IEDC includes the costs on account of the pre-operative expenses, viz., tender evaluation and bid review by the external agency and the same works out to ₹ 0.04 Crore, which has been capitalized on OD_e.

(p) **IDC:** The Petitioner has deployed internal accruals to fund the entire project cost towards installation of the proposed De-NO_x system which has been completed within a period of about 6.5 months, considering the date of issuance of LOI, i.e., 15.5.2023, as the Zero Date of the project. The capital has been infused by way of making payment to the vendors.

(q) The Commission, vide its Suo-motu Order dated 13.08.2021 (Petition No. 06/SM/2021), adopted a 'cost of capital' approach for projects with tariffs discovered under Section 63 of the Act that seek compensation for De-NO_x system installation under a 'Change in Law' event. While no fixed debt-equity ratio was prescribed, the Petitioner assumed 70% of the capital as a normative loan for Interest During Construction (IDC) calculation. IDC was computed based on quarterly fund disbursements from the project's Zero Date to its operational date (30.11.2023), using a weighted average interest rate of 8.58% (as on 01.04.2023), which is below the

allowed cap of 12.00%. The total IDC over 6.5 months amounts to ₹0.09 crore, supported by an auditor's certificate.

(r) The final Capital Cost of the De-NOx system for Unit 2 amounts to ₹13.46 crores, which is lower than the earlier projected cost of ₹15.14 crores in Petition No. 261/MP/2022. The project was completed on time, meeting all technical and commercial standards through a transparent process. Given the efficient execution and alignment with the in-principle approval granted by the Commission in its Order dated 08.01.2024, the Petitioner has sought approval of the final capital cost and its phasing as detailed in Table 2.

Supplementary Tariff in terms of the Commission's Order dated 13.8.2021

(s) The Amendment Rules, along with the MPCB letter dated 1.10.2021, have been recognized as a 'Change in Law' event under Article 10 of the TANGEDCO PPA. As such, the Petitioner should be compensated to restore its economic position as if the event had not occurred. This principle of economic restitution has been firmly upheld by the Commission in its Order dated 13.8.2021 (Petition No. 06/SM/2021), which also outlines the applicability of compensation and the methodology for determining the Supplementary Tariff for projects with PPAs under Section 63 prior to the Amendment Rules 2015.

(t) As per the norms specified in the Order dated 13.08.2021, the Petitioner has computed the compensation/Supplementary Tariff towards the installation of the De-NOx system in Unit 2 of its Project. The summary of the Capital Cost and the levelized compensation/Supplementary Tariff for the De-NOx system is provided in the following Table:

TABLE 4: DIL UNIT 2 – SUMMARY OF SUPPLEMENTARY TARIFF OF DE-NO_x SYSTEM

DIL Unit 2 - Summary of Supplementary Tariff of De-NO_x System during Service Period				
FY	Year Counter	Supplementary Fixed Charge Rate (₹/kWh)	Supplementary Energy Charge Rate (₹/kWh)	Supplementary Tariff (₹/kWh)
FY 2023-24	1	0.008	0.000	0.008
FY 2024-25	2	0.009	0.000	0.009
FY 2025-26	3	0.009	0.000	0.009
FY 2026-27	4	0.009	0.000	0.009
FY 2027-28	5	0.009	0.000	0.009
FY 2028-29	6	0.009	0.000	0.009
FY 2029-30	7	0.008	0.000	0.008
FY 2030-31	8	0.008	0.000	0.008
FY 2031-32	9	0.008	0.000	0.008
FY 2032-33	10	0.008	0.000	0.008
FY 2033-34	11	0.008	0.000	0.008
FY 2034-35	12	0.008	0.000	0.008
FY 2035-36	13	0.007	0.000	0.007
FY 2036-37	14	0.007	0.000	0.007
FY 2037-38	15	0.007	0.000	0.007
FY 2038-39	16	0.007	0.000	0.007
FY 2039-40	17	0.007	0.000	0.007
FY 2040-41	18	0.007	0.000	0.007
FY 2041-42	19	0.006	0.000	0.006
FY 2042-43	20	0.006	0.000	0.006
FY 2043-44	21	0.006	0.000	0.006
FY 2044-45	22	0.006	0.000	0.006
FY 2045-46	23	0.006	0.000	0.006
FY 2046-47	24	0.006	0.000	0.006
FY 2047-48	25	0.006	0.000	0.006
FY 2048-49	26	0.006	0.000	0.006

TABLE 5: DIL UNIT 2 – SUMMARY OF CAPITAL COST AND LEVELIZED SUPPLEMENTARY TARIFF OF DE-NO_x SYSTEM

DIL Unit 2 - Summary of Capital Cost and Levelized Supplementary Tariff of De-NO_x System		
Particulars	UoM	Unit 2
Installed Capacity	MW	300
Capital Cost of the De-NO_x System	₹ Crores	13.46
OD _e of De-NO _x System	Date	30-11-2023
End of Service Period of De-NO _x System	Date	30-11-2048
NAPLF	%	85%
Levelized Supplementary Fixed Charge Rate	₹/kWh	0.008
Levelized Supplementary Energy Charge Rate	₹/kWh	0.000
Levelized Supplementary Ex-Bus Tariff	₹/kWh	0.008

The detailed computation of the Supplementary Tariff, along with relevant supporting documents, is attached.

(u) The Petitioner has sought approval to recover the Supplementary Tariff related to the De-NOx system installation under the TANGEDCO PPA, limited to 85% normative plant availability against the 100 MW net contracted capacity, through monthly energy bills. As per Clause 10.3.2 of the PPA, such recovery is permissible only if the revenue impact from 'Change in Law' events exceeds 1% of the Standby Letter of Credit value for the relevant Contract Year(s). For the related 187 MW gross contracted capacity under the NPCL PPA, a separate Petition will be filed before the appropriate Commission.

(v) The applicability of Carrying Cost on the revenue gap arising due to the time lag between the occurrence of 'Change of Law' event and the actual payment of compensation due to the same has been dealt with by this Commission vide the Order dated 13.8.2021 in Petition No. 06/SM/2021. The De-NOx system in DIL Unit 2 was declared operational on 30.11.2023 and, from that date, is entitled to recover the compensation through the Supplementary Tariff for the 100 MW net contracted capacity until the Commission issues its order. Accordingly, the Petitioner is entitled to the Carrying Cost on the resulting revenue gap, as per the applicable rate under the TANGEDCO PPA.

Recovery of Supplementary Tariff

(w) The Petitioner proposes to recover the proposed Supplementary Tariff from the Respondent to the extent of the Contracted Capacity as per the TANGEDCO PPA based on the Order passed by this Commission on 13.8.2021, in which recovery of compensation has been prescribed.

Maintainability of the Petition

(x) The Petitioner's Unit 2 qualifies as an Inter-State Generating Station (ISGS) as it supplies power to both Tamil Nadu (TANGEDCO) and Uttar Pradesh (NPCL), bringing the case under CERC's jurisdiction per Section 79(1)(b) of the Electricity Act, 2003. The 100 MW supply to TANGEDCO is governed by a Section 63 PPA, which allows compensation for 'Change in Law' events. CERC has recognized new environmental norms and an MPCB letter as such an event. To comply, the Petitioner installed a De-NOx system, incurring costs exceeding the 1% threshold under the PPA, making it eligible for compensation through a Supplementary Tariff. Thus, the Petition is

maintainable before CERC. Further, the CERC's Order dated 13.8.2021 (in Petition No. 06/SM/2021) has been challenged by the Association of Power Producers (APP) before the Appellate Tribunal for Electricity (Appeal No. 306 of 2021), and the matter is currently pending. Accordingly, the Petitioner may be granted permission to amend the Petition, if required.

Hearing dated 26.9.2024

5. During the course of the hearing, the learned counsel for the Petitioner reiterated and submissions made in the Petition and requested to admit the Petition. Vide Record of Proceedings (ROP) for the hearing dated 26.9.2024, the Petitioner was directed to file the information called for in the said ROP. The Petitioner, vide its affidavit dated 25.11.2024, has submitted the information called for and has mainly submitted as under:

a) Reasons for the increase in the total hard capital cost of the De-Nox system from the projected cost provisionally approved

i. The De-NOx system for Unit 2 of its 2×300 MW plant in Chandrapur, Maharashtra, was supplied, erected, and commissioned by vendors selected through competitive bidding, with related details submitted in Petition No. 261/MP/2022. The Commission granted in-principle approval on 08.01.2024 for a provisional Base Capital Cost of ₹12.14 crores (excluding estimated taxes and duties of ₹2.08 crores) from a total proposed cost of ₹15.14 crores. The earlier estimated Hard Capital Cost was ₹5.88 crores, excluding ₹2.08 crores in taxes and duties. While the Commission allowed these to be claimed post-installation, the Petitioner has not claimed them separately in this Petition since the paid amount already includes taxes and duties. A comparative table of estimated vs. actual costs is as under:



COMPARISON OF HARD CAPITAL COST OF DE-NO_x SYSTEM AS CLAIMED BY THE PETITIONER

Comparison of Hard Capital Cost of De-NO _x System as claimed by the Petitioner			
Particulars	UoM	As estimated in Petition No. 261/MP/2022	As claimed in Petition No. 263/MP/2024
Hard Capital Cost	₹ Crores	5.88	5.69
Taxes & Duties (@18% of Hard Capital Cost)	₹ Crores	1.06	1.02
Hard Capital Cost, inclusive of Taxes & Duties	₹ Crores	6.94	6.71

ii. Therefore, (i) there has been no increase in the Hard Capital Cost of the De-NO_x System and the Auxiliaries from the projected cost provisionally approved by this Commission in its Order dated 08.01.2024, and (ii) the Petitioner has achieved the commissioning of the De-NO_x System and the Auxiliaries within the cost as projected/provisionally approved earlier.

b) De-capitalized Value of the Dismantled Items for the installation of De-NO_x system and the Auxiliaries in Unit 2 of the petitioner's project

i. The following equipment has been dismantled and replaced with the newly designed equipment as supplied by the successful bidder, i.e., GE Power India Limited (GEPIL), pursuant to the competitive bidding undertaken by the Petitioner due to the installation of the De-NO_x system and the Auxiliaries in Unit 2:

LIST OF EQUIPMENT DISMANTLED DUE TO COMMISSIONING OF DE-NO_x SYSTEM IN UNIT 2

List of Dismantled Equipment			
Sl. No.	Particulars	Quantity replaced for each corner of the Boiler	Total quantity for Boiler of Unit 2
1	Coal Nozzle tip	6	24
2	Oil Nozzle tip	3	12
3	Nozzle tip for CCOFA	2	8
4	Nozzle tip for Top End air	1	4
5	Nozzle tip for Intermediate Air	2	8
6	Nozzle tip for Bottom End air	1	4

ii. Every type of Nozzle tip has been replaced with newly designed tips compatible with the newly installed De-NO_x system. However, the above equipment installed at the time of commissioning of Unit 2 of the Petitioner's Project, was a part of the entire Boiler-Turbine-Generator (BTG) supply package of the Unit. The cost of each such Nozzle tip was a part of the cost of the entire BTG



package as a whole, and the segregated cost of each such Nozzle tip, capitalized at the time of commissioning of Unit 2, is not readily available with the Petitioner.

iii. For the purpose of assessment of the historical cost of various types of Nozzle tips, the Petitioner has adopted the following methodology:

a) **For Coal Nozzle tips:** The price of the newly designed Coal Nozzle tips and those of older design, which have been replaced, are different. Therefore, to assess the price of the Coal Nozzle tips of older design which have been replaced, the Petitioner has referred to the Purchase Order (**PO**) dated 03.08.2022 placed on the relevant vendor for the procurement of such Coal Nozzles, of earlier design, as spares. Since such Coal Nozzles were of similar design and were used as replacement spares for the original Coal Nozzles installed at the time of commissioning, the Petitioner found it appropriate to refer to such price, as quoted in the aforesaid PO dated 03.08.2022, as the reference price of the original Coal Nozzles which have been replaced during the commissioning of De-NO_x system and the Auxiliaries in Unit 2.

(b) **For other Nozzle tips:** The Petitioner has referred to the copy of the Purchase Order (**PO**) dated 27.07.2023 placed on GEPIL for the supply of Mandatory Spares, wherein the unit price of all types of Nozzle tips which have been replaced is available. Although such a price indicates the price of newly designed Nozzle tips, which are different from those which have been replaced, the Petitioner has no other reference price available. The Petitioner has placed on record the copies of the Purchase Orders dated 27.07.2023 and 03.08.2022. However, the price of the Coal Nozzle tips is at the level of August 2022, and the price of the other types of Nozzle tips is at the level of July 2023. The original equipment was installed and commissioned with Unit 2 on 02.08.2014. Therefore, to arrive at the historical value of all such dismantled equipment, i.e., the August 2014 price level, the Petitioner has adopted the methodology prescribed by this Commission in Regulation 26 of the CERC (Terms & Conditions of Tariff) Regulations, 2024. In accordance with methodology prescribed in the above Regulations for arriving at the historical value of assets, the Petitioner has computed the historical cost of the above equipment, which

has been dismantled and replaced with newly designed tips by de-escalating the cost of such Nozzle tips by 5% each year, as shown in the following Table:

ESTIMATED HISTORICAL COST OF DISMANTLED EQUIPMENT FOR INSTALLATION OF

Estimated Historical Cost of Dismantled Equipment		
Particulars	UoM	Value
(A) Coal Nozzle Tip		
Price of Coal Nozzle tip as per PO dated 03.08.2022	₹	203400
IGST (@18%) on above	₹	36612
Total Price of Coal Nozzle tip as on August 2022	₹	240012
Rate of de-escalation per year	%	5%
Estimated price of Coal Nozzle tip as on August 2014	₹	162450
Total No. Coal Nozzle tips for replacement	No.	24
Estimated historical cost of Coal Nozzle tips replaced due to commissioning of De-NO_x system in Unit 2	₹	3898790
(B) Other Nozzle Tips		
Price as per PO dated 23.07.2023		
- Oil Nozzle Tip	₹	168525
- Nozzle tip for CCOFA	₹	129938
- Nozzle tip for Top End air	₹	133875
- Nozzle tip for Intermediate Air	₹	147263
- Nozzle tip for Bottom End air	₹	129325
Number of tips replaced -		
- Oil Nozzle Tip	No.	12
- Nozzle tip for CCOFA	No.	8
- Nozzle tip for Top End air	No.	4
- Nozzle tip for Intermediate Air	No.	8
- Nozzle tip for Bottom End air	No.	4
Total Price of Other Nozzle tips as on July 2023	₹	5292704
Rate of de-escalation per year	%	5%
Estimated historical cost of Other Nozzle tips replaced due to commissioning of De-NO_x system in Unit 2	₹	3411724
Total Estimated historical cost of dismantled equipment due to commissioning of De-NO_x system in Unit 2 (A + B)	₹	7310514

DE-NOX SYSTEM

iv. Based on the above historical cost, the net asset value of the dismantled equipment as on 30.11.2023, i.e., the date of commissioning of the De-NO_x system and the Auxiliaries in Unit 2, is shown in the following Table:



NET ASSET VALUE OF DISMANTLED EQUIPMENT AS ON 30.11.2023

Net Asset Value of Dismantled Equipment		
Particulars	UoM	Value
Gross Asset Value of Dismantled Equipment as on 02.08.2014	₹ Crores	0.73
Applicable Rate of Depreciation (Asset Class: Plant & Machinery)	%	5.28%
No. of Years elapsed	No.	9.33
Accumulated Depreciation	₹ Crores	0.36
Net Asset Value of Dismantled Equipment as on 30.11.2023	₹ Crores	0.37

c) Documents in support of the Achievement of Emission Norms after commissioning of the De-NOx System and the Auxiliaries in Unit 2 of the petitioner's project

- i. The Performance Guarantee Test (PG Test) of Unit 2 for commissioning of the De-NOx system and the Auxiliaries have been performed by GEPIL, wherein the NOx emission values have been demonstrated against the guaranteed values under the work contract. A copy of the PG Test Report as submitted by GEPIL has been placed on record. Further, the NOx emission design value for the boiler of Unit 2, as indicated in the work contract, was 750 mg/Nm³. However, there was no specific PG Test Report of Unit 2 containing the NOx emission level which can be referred to at this stage.

d) Timeline of completion of various milestone activities

- i. The timeline for completion of the various milestone activities for the De-NOx system and the Auxiliaries is provided in the following Table:

TIMELINE OF COMPLETION OF MILESTONE ACTIVITIES IN INSTALLATION OF DE-NOX SYSTEM

Sl. No.	Milestone Activities		Scheduled date of completion as per L1 Schedule		Actual date of completion		Reason(s) for delay	Details of LD Recovered from the vendor, If any
			From	To	From	To		
1	Combustion Modification System for Unit 2	Main Equipment Supply Package (GE Power India Ltd.)	29.05.2023	30.09.2023	29.05.2023	30.09.2023	Completed within scheduled timeline	Not applicable



	Erection Package (Power Mech Projects Ltd.)	01.09.2023	18 days from the date of issuance of permit post shutdown	01.09.2023	Job completed within scheduled timeline	Completed within scheduled timeline	Not applicable
2	Any other work	-	-	-	-	-	-

- ii. In view of the above, it is thus evident that the various milestone activities have been completed within the scheduled timeline and there has been no delay in the completion of the same.

e) Data Submitted to CPCB for the years 2020-21, 2021-22 and 2022-23

- i. The real time NO_x emission data of Unit 2 of the Petitioner's Project are transmitted to the Central Pollution Control Board (CPCB). The NO_x emissions levels of the past 3 (three) years, i.e., FY 2020-21, FY 2021-22 and FY 2022-23, are shown in the following table:

DATA PERTAINING TO NO_x EMISSION LEVEL – DIL UNIT 2

2020-21, 2021-22 and 2022-23	Total No. of times NO _x value exceeded 450 mg/Nm ³ limit on 15 min average data
	Unit-2
<450	52494
>450	36357
Total	88851
2020-21, 2021-22 and 2022-23	Total % NO _x value exceeded 450 mg/Nm ³ limit on 15 min average data
	<450
	>450

Note: The above NO_x emission summary is based on data as transmitted to CPCB. NO_x emission data during unit start-ups/shutdowns, instrument calibration and instrument malfunctions have not been considered.

6. Respondent, Tamil Nadu Power Distribution Corporation Limited (TNPDC), erstwhile Tamil Nadu Generation and Distribution Corporation Limited, vide its reply dated 26.12.2024 has mainly submitted as under:

- a) The Respondent generally denied all claims in the Petition that conflict with its own position, except where specifically admitted or based on official records. It



stated that any non-response should not be taken as acceptance and reserves the right to modify its statements.

b) The De-NOx system is not yet fully commissioned, with ₹12.08 crores already spent and ₹1.24 crores to be paid by 30.09.2024.

c) The Commission had earlier granted in-principle approval for a provisional base capital cost of ₹12.14 crores (plus estimated taxes and duties of ₹2.08 crores) for the De-NOx system. However, in the current Petition, the Petitioner has now claimed a total of ₹13.46 crores (₹6.71 crores as hard cost and ₹6.75 crores as soft cost), without providing justification for this cost escalation.

d) The Petitioner vide its additional affidavit dated 25.11.2024, has clarified that the claimed amount of ₹13.46 crores for the De-NOx system includes interest, duties, and taxes, with ₹6.71 crores attributed to hard costs and ₹6.75 crores to soft costs. This amount remains within the previously approved provisional limit of ₹15.14 crores, which comprised a base capital cost of ₹12.14 crores and estimated taxes and duties of ₹2.08 crores. Accordingly, the Commission may declare ₹13.46 crores as the final inclusive amount and bar the Petitioner from claiming any further costs.

e) The Petitioner's claimed capital cost of ₹13.46 crores for the De-NOx system must be apportioned based on the PPA with TNPDC, which covers only 100 MW of the 300 MW Unit-2.

f) While the De-NOx system has a 25-year service life (2023–2049), the Petitioner's PPA with TNPDC ends in 2028, and yet the Petitioner is proposing higher fixed capacity charges during the early years of the system's operation. No justification has been provided for this front-loaded cost recovery, especially during the last phase of the PPA, and the proposed charges must be subject to proper scrutiny by TNPDC. Without this, in-principle approval of the costs is unwarranted.

g) Further, the Petitioner has failed to provide any clarification, either in Petition No. 261/MP/2022 or in the subject Petition, regarding the specific measures implemented to ensure that the ECS (Environmental Control System), i.e., the De-NOx system, is operational 24 hours a day, 7 days a week, and functions continuously without interruption. The Petitioner has not addressed how the



system will maintain its availability and efficiency throughout the year, which is crucial for ensuring compliance with environmental and regulatory standards.

- h) The Petitioner may be directed to submit detailed data and documents to support its Change in Law claims, specifically seeking confirmation that there is no duplication or overlap in the claimed compensation between the 100 MW supply to TNPDC and the 170 MW supply to Noida Power Company Limited or other distribution companies.

7. On 3.1.2025, the Petitioner has submitted vide its additional affidavit has placed on the record the subsequent developments, including the Commission's order dated 29.11.2024 in Petition No. 04/SM/2024, and has made the following submissions.

a) During the pendency of Petition No. 263/MP/2024, the following developments have taken place: (a) discharge of liabilities related to the NOx Abatement System for Q2 of FY 2024-25; (b) the Commission's order dated 29.11.2024 in Suo Motu Petition No. 04/SM/2024, which amended certain tariff norms for emission control-related capital expenditure; and (c) the revised Compensation/Supplementary Tariff calculated in accordance with that order.

b) At the time of filing the Petition, the Petitioner submitted the capital cost of the De-NOx system and auxiliaries for Unit 2 of its 2×300 MW coal-based plant in Chandrapur, Maharashtra, based on actual expenses up to Q1 of FY 2024-25 and estimated payments to be made by the end of Q2 of FY 2024-25, for the Commission's approval.

c) The Petitioner calculated the Compensation/Supplementary Tariff for recovering fixed charges related to the De-NOx system in Unit 2, based on the norms set by the Commission's Order dated 13.08.2021 (Petition No. 06/SM/2021). The Petitioner also requested the Commission's permission to revise its claims later, depending on any future APTEL's judgment or the Commission's orders.

d) The Petitioner submitted the revised Compensation/Supplementary Tariff, reflecting the amendments made by the Commission in its Order dated 29.11.2024



(Suo-motu Petition No. 04/SM/2024), read with the Order dated 13.08.2021 (Suo Motu Petition No. 06/SM/2021), and sought the Commission's approval.

Revised Capital Cost of the De-Nox System Along with Capitalization Phasing

e) The final capital cost for the supply, erection, and commissioning of the De-NOx system and Auxiliaries in Unit 2 amounts to ₹13.46 crores, which includes initial spares, applicable taxes and duties, insurance, interest during construction (IDC), and incidental expenditure during construction (IEDC). This is based on the discharge of liabilities in Q2 FY 2024-25. Additionally, the discharge of liabilities for Unit 2 in Q2 of FY 2024-25 totals ₹1.24 crores.

f) The Petitioner has placed on record a copy of the Auditors' Certificate, certifying the actual cash expenditure for the De-NOx system and Auxiliaries as of the end of Q2 FY 2024-25.

Revised Supplementary Tariff in terms of the Order dated 29.11.2024 read with the earlier Order dated 13.08.2021 as passed by this Commission

g) As per the norms specified in the Orders dated 29.11.2024 and 13.08.2021, the Petitioner has calculated the revised Compensation/Supplementary Tariff for the installation of the De-NOx system in Unit 2. The difference in the Supplementary Tariff due to the revised norms is minimal. The year-wise Supplementary Tariff recoverable from the beneficiaries, as well as the levelized Compensation/Supplementary Tariff for the De-NOx system, are provided in the following tables:

DIL UNIT 2 – SUMMARY OF SUPPLEMENTARY TARIFF OF DE-NO_x SYSTEM

DIL Unit 2 - Summary of Supplementary Tariff of De-NO _x System during Service Period				
FY	Year Counter	Supplementary Fixed Charge Rate (₹/kWh)	Supplementary Energy Charge Rate (₹/kWh)	Supplementary Tariff (₹/kWh)
FY 2023-24	1	0.010	0.000	0.010
FY 2024-25	2	0.011	0.000	0.011
FY 2025-26	3	0.011	0.000	0.011
FY 2026-27	4	0.011	0.000	0.011
FY 2027-28	5	0.010	0.000	0.010
FY 2028-29	6	0.010	0.000	0.010
FY 2029-30	7	0.010	0.000	0.010
FY 2030-31	8	0.009	0.000	0.009
FY 2031-32	9	0.009	0.000	0.009
FY 2032-33	10	0.009	0.000	0.009
FY 2033-34	11	0.008	0.000	0.008
FY 2034-35	12	0.008	0.000	0.008
FY 2035-36	13	0.008	0.000	0.008
FY 2036-37	14	0.006	0.000	0.006
FY 2037-38	15	0.005	0.000	0.005
FY 2038-39	16	0.005	0.000	0.005
FY 2039-40	17	0.005	0.000	0.005
FY 2040-41	18	0.005	0.000	0.005
FY 2041-42	19	0.005	0.000	0.005
FY 2042-43	20	0.005	0.000	0.005
FY 2043-44	21	0.005	0.000	0.005
FY 2044-45	22	0.005	0.000	0.005
FY 2045-46	23	0.005	0.000	0.005
FY 2046-47	24	0.005	0.000	0.005
FY 2047-48	25	0.005	0.000	0.005
FY 2048-49	26	0.006	0.000	0.006

DIL UNIT 2 – SUMMARY OF CAPITAL COST AND LEVELIZED SUPPLEMENTARY TARIFF OF DE-NO_x SYSTEM

DIL Unit 2 - Summary of Capital Cost and Levelized Supplementary Tariff of De-NO _x System		
Particulars	UoM	Unit 2
Installed Capacity	MW	300
Capital Cost of the De-NO_x System	₹ Crores	13.46
OD _e of De-NO _x System	Date	30-11-2023
End of Service Period of De-NO _x System	Date	30-11-2048
NAPLF	%	85%
Levelized Supplementary Fixed Charge Rate	₹/kWh	0.009
Levelized Supplementary Energy Charge Rate	₹/kWh	0.000
Levelized Supplementary Ex-Bus Tariff	₹/kWh	0.009

h) Additionally, the documents submitted along with the affidavit may be taken on record, which were not previously part of the record, and consider them as part of the current Petition.



Hearing dated 7.1.2025

8. During the course of the hearing, the learned counsel for the Petitioner requested for time to file a rejoinder to the Respondent's reply dated 26.12.2024, while the Respondent's counsel sought time to respond to the Petitioner's additional affidavit dated 03.01.2025.

9. The Petitioner, vide its rejoinder dated 15.2.2025, has mainly submitted as below:

a) The Respondent's claim in Paragraph 8 of its reply alleging that Petition No. 261/MP/2022 was filed without sharing the required details under Regulations 29(1) and 29(2) of the Tariff Regulations 2019, is incorrect. The Respondent is merely repeating issues already raised and conclusively adjudicated by the Commission in its final Order dated 08.01.2024 in the same Petition.

b) The issues raised by the Respondent regarding non-compliance with Tariff Regulations were already adjudicated by the Commission in its order dated 08.01.2024 in Petition No. 261/MP/2022. Since that order has not been challenged, it has attained finality and does not warrant further response. The Petitioner also cited settled legal principles preventing re-litigation of issues already decided between the same parties.

c) Additionally, the Respondent's statements in Paragraphs 9–11 of its reply relating to the tendering process, issuance of Lol to GE Power India Ltd., and in-principle approval of ₹12.14 crore as base capital cost, are acknowledged as factual summaries already considered by the Commission in its final order. Therefore, the Petitioner does not find it necessary to respond further to these points.

d) The Respondent's claims regarding non-commissioning of the De-NOx system and unauthorized cost escalation are incorrect and misleading. The De-NOx system was fully commissioned on 30.11.2023, and the Respondent was duly informed through a letter dated 01.12.2023, along with a Management Certificate confirming the commissioning. The Petitioner has also conducted Performance



Guarantee Tests to ensure compliance with environmental norms. The difference between the in-principle approved base capital cost of ₹12.14 Crores and the final capital cost of ₹13.46 Crores reflects additional components and final liabilities, making the two figures not directly comparable. These details have already been submitted through the Petitioner's filings dated 25.11.2024 and Additional Affidavit dated 03.01.2025, and the Respondent's objections should therefore be rejected.

e) The Petitioner has already discharged liabilities amounting to ₹1.24 Crores for the De-NOx system in Unit 2 during Q2 of FY 2024-25, and details of the actual cash expenditure and phasing have been provided in the Additional Affidavit dated 03.01.2025. Regarding the Respondent's claim of an increase in capital cost from ₹12.14 Crores to ₹13.46 Crores, the Petitioner submitted that the earlier figure excluded estimated Taxes and Duties, and thus cannot be directly compared to the final cost submitted in the current Petition. These objections, aimed at misrepresenting facts, lack merit, and the Commission is requested to consider the final capital cost breakdown as submitted in the said Additional Affidavit.

f) In response to the Respondent's contention that the Petitioner should not be allowed to claim any amount beyond ₹13.46 Crores, the Petitioner stated that ₹13.46 Crores is the final and firmed-up capital cost for the supply, erection, and commissioning of the De-NOx system and auxiliaries in Unit 2. This amount includes all components such as initial spares, taxes and duties, insurance, IDC, and IEDC, based on the final discharge of liabilities in Q2 FY 2024-25. These details were already submitted through the Additional Affidavit dated 03.01.2025, and since the system has been installed and commissioned, no further upward revision of the capital cost will be sought.

g) The Petitioner's PPA with the respondent only covers 100 MW of contracted capacity, so any costs towards TANGEDCO's liability should be proportionally allocated for the 100 MW from Unit-2 of the Project. The Petitioner has requested, in their Petition and subsequent Additional Affidavit (dated 03.01.2025), the Commission to approve the Supplementary Tariff and allow recovery of

compensation for only up to the 100 MW net contracted capacity under the TANGEDCO PPA, following the Commission's previous Orders (dated 29.11.2024 and 13.08.2021). The Petitioner confirmed that no overlapping or duplication should occur in the claims. Additionally, the Petitioner has approached the Uttar Pradesh Electricity Regulatory Commission (UPERC) via Petition No. 2130 of 2024 to approve the proportionate liability for the installation of a De-NOx system in Unit 2, which will be recovered from Noida Power Company Limited (NPCL) for the 187 MW contracted capacity from the same unit.

h) The Petitioner is agreed with the Respondent's claim in Paragraph 19 that it is seeking higher Capacity Charges for 2023 to 2028. The Petitioner asserted that it has followed the principles and computations outlined in the Commission's Suo-Motu Orders from 29.11.2024 and 13.08.2021 for the Supplementary Tariff related to the De-NOx system. The Petitioner referred to Annexure A-3(Colly.) of its additional Affidavit dated 03.01.2025 for further details.

i) The Respondent, in Paragraphs 20 to 22 of its Reply, has asked the Commission to request additional details from the Petitioner regarding the availability of the system and to substantiate the claims made in the Petition, also seeking confirmation that there will be no overlapping claims. In response, the Petitioner asserted that it has already provided all necessary details in their Submission dated 25.11.2024 and addressed all queries from the Commission. The Petitioner confirmed that it is only seeking recovery of compensation for up to 100 MW net contracted capacity under the TANGEDCO PPA, with no overlapping or duplication in the claims. The Petitioner further stated that if the Commission requires any additional details, they will fully comply.

Hearing dated 28.4.2025

10. During the course of the hearing, the Petitioner's counsel presented detailed oral submissions, while the Respondent's counsel requested that the reply filed by the Respondent be considered in the order. Based on the agreement of both parties, the order in the Petition was reserved.



Analysis and Decision

11. We have considered the submissions of the Petitioner, Dhariwal Infrastructure Limited (DIL), and the Respondent, Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO). The Petitioner, in the present matter, sought approval for the final capital cost of ₹13.46 crores incurred towards the installation of a De-NOx system and its auxiliaries in Unit-2 (300 MW) of its thermal power plant at Chandrapur. The installation was in compliance with the revised NOx emission norms notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), which mandated a limit of 450 mg/Nm³. The Petitioner has submitted that this constituted a 'Change in Law' event under Article 10 of the PPA with TANGEDCO and claimed compensation through a Supplementary Tariff. The Petitioner has confirmed that it has apportioned cost and compensation claims strictly to the 100 MW contracted capacity under the TANGEDCO PPA and that a separate Petition was filed before UPERC for the remaining capacity. Additionally, the Petitioner sought recovery of carrying cost due to the time lag in tariff realization and submitted revised tariff computations in line with the Commission's Suo Motu Orders dated 13.08.2021 and 29.11. 2024. In response, the Respondent, TANGEDCO, questioned the justification for the increase in capital cost from ₹12.14 crores (provisionally approved) to ₹13.46 crores and argued that this escalation lacked adequate explanation. It raised concerns over the apportionment of cost given the 100 MW contracted capacity and objected to any recovery beyond the Petitioner's PPA term, which ends in 2028, while the system's life extends to 2049. TANGEDCO also questioned the operational continuity and availability of the De-NOx system and requested the Commission to ensure that compensation claims were proportionately and transparently allocated, avoiding any duplication with claims made before UPERC.



12. We have examined the submissions of the Petitioner and the Respondent, in the matter of approval of the final capital cost for installation of the De-NOx system in Unit-2 of the Petitioner's generating station, and determination of compensation through Supplementary Tariff under the 'Change in Law' provision of the Power Purchase Agreement (PPA). With respect to capital cost i.e. Additional capital expenditure on the emission control system/s, the Commission, in its order dated 13.8.2021 in Petition No. 6/SM/2021, has held that the additional capital expenditure on the emission control systems must be based on a transparent competitive bidding process and shall include hard cost, incidental expenses during construction, financing and insurance charges, IDC, gain or loss on foreign exchange rate variations, and initial spares. Admissibility of any other expenditure shall be decided on a case-by-case basis, and once the capital cost is determined and admitted, the compensation mechanism shall be applied accordingly. The relevant extracts of the Commission's order dated 13.8.2021 in 6/SM/2021 is as under:

“Capital cost

20. Additional capital expenditure on emission control system/s shall include hard cost, incidental expenditure during construction, financing charges, insurance charges, interest during construction, gain or loss on foreign exchange rate variations and initial spares. Hard cost of emission control system would need to be discovered through a process of transparent competitive bidding by the generating company owning the thermal generating station. Admissibility of any other expenditure shall be decided on case to case basis. Once the capital cost (additional capital expenditure) of emission control system is determined, the compensation mechanism shall be applicable to work out the compensation.”

Capital Cost

13. The Commission has examined the Petitioner's request for approval of the final capital cost of ₹13.46 crore incurred for the installation of the De-NOx system and associated auxiliaries in Unit-2 (300 MW) of its thermal power plant at Tadali, Chandrapur.



This installation was necessitated to comply with the revised NO_x emission standards notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), which apply to the generating units commissioned between 1.1.2003 and 31.12.2016, including Unit-2 commissioned on 2.8.2014. The Commission, in its order dated 8.1.2024 in Petition No. 261/MP/2022, granted in-principle approval to the provisional base capital cost and permitted the Petitioner to approach it again for final approval and tariff revision upon commissioning.

14. We observe that the final cost of ₹13.46 crores submitted by the Petitioner includes all relevant components viz. hard cost, insurance, Interest During Construction (IDC), Incidental Expenditure During Construction (IEDC), and applicable taxes and duties—and remains within the earlier ceiling of ₹15.14 crore (out of which the base cost of Rs. 12.14 crores was accorded in-principle approval). The break-up of the actual cash expenditure, along with the phasing of the discharged liabilities submitted by the Petitioner, are as under:

DIL UNIT 2 - BREAK-UP OF CAPITAL COST OF DE-NO _x SYSTEM			
DIL Unit 2 - Break-up of Capital Cost of the De-NO _x System			
Particulars	Annotation	Unit 2	
		₹ Crores	₹ Crores/MW
Hard Capital Cost			
Equipment & Material supply	A	6.43	0.021
Initial Spares	B	0.28	0.001
Total Hard Capital Cost of De-NO _x System	C = sum(A:B)	6.71	0.022
Soft Capital Cost			
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test - Service Cost	D	6.56	0.022
Engineering and Project Management cost	E	0.05	0.000
Total Base Capital Cost of De-NO _x System	F = sum(C,D,E)	13.32	0.044
Insurance	G	0.01	0.000
Incidental Expenses during Construction	H	0.04	0.000
IDC (@Rate of Interest 8.58%)	I	0.09	0.000
Total Soft Capital Cost of De-NO _x System	J = sum(D,E,G,H,I)	6.75	0.023
Total Capital Cost of De-NO _x System	K = C+J	13.46	0.045



DIL UNIT 2 – PHASING OF ACTUAL CASH EXPENDITURE OF DE-NO_x SYSTEM

Phasing of Actual Cash Expenditure of De-NO _x System - DIL Unit 2						
Particulars	Capital Cost (Acquisition Value)	Capitalized as on OD _e	Capitalized During Q3 FY 2023-24	Capitalized during Q4 FY 2023-24	Capitalized during Q1 FY 2024-25	Capitalized during Q2 FY 2024-25
Hard Capital Cost of De-NO _x System	6.71	4.42	0.86	0.89	0.02	0.52
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test - Service Cost	6.56	3.05	0.73	1.82	0.23	0.72
Engineering and Project Management cost	0.05	0.04	-	0.00	-	-
Insurance	0.01	0.01	-	-	-	-
Incidental Expenses during Construction	0.04	0.04	-	-	-	-
IDC (@Rate of Interest 8.58%)	0.09	0.09	-	-	-	-
Total Capital Cost of De-NO_x System	13.46	7.66	1.60	2.71	0.25	1.24

15. We further observe that the Petitioner had submitted an auditor's certificate confirming that an amount of ₹13.37 crores was actually spent, on a cash basis, as of 30.09.2024. This expenditure relates to the supply, erection, and commissioning of the De-NO_x system along with its auxiliaries for Unit-2 of the 2×300 MW Thermal Power Station operated by DIL. However, the Petitioner, in its tariff claim, has stated a slightly higher amount of ₹13.46 crores, along with the phasing details of the actual cash expenditure. This creates a difference of ₹0.09 crore between the audited figure and the amount claimed. On examining this difference, we note that this difference is on account of the inclusion of Interest During Construction (IDC) in the Petitioner's claim. The Petitioner has submitted that it has deployed internal accruals to fund the entire project cost towards the installation of the proposed De-NO_x system and has, for the purpose of computation of IDC, considered 70% of deployed capital as a normative loan. Based on the weighted average rate of actual interest on outstanding loans of the Petitioner, which works out to 8.58% as on 01.04.2023, the Petitioner has claimed the IDC of Rs. 0.09 crore. Since the Petitioner has funded the entire cost towards installation of the proposed De-NO_x system from internal accruals, the IDC claimed by the Petitioner is a notional IDC that has not been certified by the auditor. We note that there is no provision that allows for



capitalisation of notional IDC in the proposed compensation mechanism in Petition Nos. 6/SM/2021 & 4/SM/2024, and this notional IDC component is disallowed. Accordingly, we approve ₹13.37 crores as the capital cost incurred on a cash basis towards the supply, erection, and commissioning of the De-NOx system and auxiliaries for Unit-2. This approved amount will be considered for tariff determination, subject to appropriate adjustment for the value of de-capitalized assets resulting from the replacement of old components.

16. Additionally, in compliance with the Commission's directive, the Petitioner has submitted the de-capitalized value of dismantled equipment using the methodology prescribed in Regulation 26(3) of the CERC Tariff Regulations, 2024. The Petitioner has submitted that it had undertaken the installation of a De-NOx system and its auxiliaries in Unit 2 of its generating station, which necessitated the dismantling of certain existing components. These components primarily consisted of various types of nozzle tips, such as coal nozzle tips, and other associated nozzles, that were originally supplied as part of the Boiler-Turbine-Generator (BTG) package during the unit's commissioning in 2014. Since the newly designed De-NOx system—procured through competitive bidding from GE Power India Ltd. (GEPIL)—was not compatible with the old nozzle tips, their removal became essential. As these dismantled items were part of the original BTG supply and not separately capitalized in the fixed asset register, the Petitioner did not have access to individual historical cost records. To overcome this, the Petitioner adopted a reasonable estimation approach in this regard. For coal nozzle tips, it refers to the unit price from a Purchase Order dated 3rd August 2022 for similar spares. For other types of nozzle tips, the Petitioner used the unit price as per the Purchase Order dated 27th July 2023, even though these were not identical to the old tips. These prices were used solely as



substitutes due to the absence of better cost references. To determine the historical cost as of August 2014 (the commissioning year), the Petitioner applied the de-escalation methodology as provided under Regulation 26(3) of the CERC Tariff Regulations, 2024. In line with the regulation, the replacement costs were de-escalated at a rate of 5% per annum up to the year of commissioning, with a floor limit of 10% of the replacement cost. This approach allowed the Petitioner to estimate a notional historical cost for the dismantled items in a consistent and regulatory-compliant manner. Following this, the Petitioner also calculated the net asset value of the dismantled equipment as of 30th November 2023 by applying the appropriate depreciation norms. The estimated historical costs were depreciated using straight-line depreciation or as per the useful life norms defined under the relevant CERC regulations. The resulting net asset values reflected the book value of the dismantled items at the time of their removal. The net asset value of the dismantled equipment as on 30.11.2023 i.e., the date of commissioning of the De-NOx system and the Auxiliaries in Unit 2 submitted by the Petitioner is as under:

NET ASSET VALUE OF DISMANTLED EQUIPMENT AS ON 30.11.2023

Net Asset Value of Dismantled Equipment		
Particulars	UoM	Value
Gross Asset Value of Dismantled Equipment as on 02.08.2014	₹ Crores	0.73
Applicable Rate of Depreciation (Asset Class: Plant & Machinery)	%	5.28%
No. of Years elapsed	No.	9.33
Accumulated Depreciation	₹ Crores	0.36
Net Asset Value of Dismantled Equipment as on 30.11.2023	₹ Crores	0.37

17. We have examined the submissions and noted that due to the installation of a De-NOx system, certain existing components originally supplied as part of the Boiler-Turbine-Generator (BTG) package during the commissioning of unit-2 in 2014, have been

dismantled. Since such dismantled items were part of the original BTG supply, the Petitioner was not able to ascertain the original gross value of individual items. However, for the purpose of the de-capitalized value of the dismantled items, the Petitioner has taken certain assumptions, such as referring to purchase orders for similar spares and considering the de-escalation methodology as provided under Regulation 26(3) of the CERC Tariff Regulations, 2024. The Petitioner has submitted the gross value of dismantled assets as Rs. 0.73 crore and net asset value as Rs. 0.37 crore.

18. As the Petitioner supplies power from Unit-2 through a Case-1 competitive bidding process, the actual capital cost incurred remains unknown, which presents a particular challenge/issue. Therefore, taking into consideration the consistent methodology followed by the Commission for the purpose of de-capitalisation, we are of the view that de-capitalisation of the dismantled assets should be carried out on a gross value basis in the instant case. Accordingly, the gross value of dismantled assets of Rs. 0.73 crore is to be adjusted against the capital cost of Unit 2, as part of the additional capitalization claimed for the installation of the De-NOx system. The Commission also directs the Petitioner to maintain detailed records and necessary supporting documentation for the de-capitalized assets.

19. Further, we have also examined the objections raised by the Respondent, TANGEDCO, regarding the alleged escalation of capital cost, the allocation of cost over the life of the De-NOx system beyond the PPA period, the lack of evidence on continuous system availability, and the risk of overlapping claims with another beneficiary (NPCL). However, these concerns are found to be unsubstantiated. It is clarified that the increase from ₹12.14 crores to ₹13.46 crores does not constitute an escalation but reflects the

finalized actual cost, which includes all necessary components and remains within the approved ceiling. With regard to cost apportionment, it was affirmed that the Petitioner's claim is restricted solely to TANGEDCO's contracted 100 MW capacity and is limited to the PPA duration ending in 2028, even though the De-NOx system's useful life extends to 2049—consistent with the regulatory principles that allow cost recovery over the asset's life while restricting the actual compensation to the contractual scope. With regard to the Petitioner's concern about the lack of evidence on continuous system availability and the risk of overlapping claims with NPCL, the documents submitted by the Petitioner, including performance test results and real-time emission data filed with the Central Pollution Control Board (CPCB), are accepted as sufficient to establish compliance with emission norms. Further, as per the Order dated 13.8.2021 in Petition No. 06/SM/2021, the Commission has held that the availability of the Environmental Control System (ECS) need not be declared separately, and for the purpose of payment of the supplementary capacity charges, the availability declared by the thermal generating station shall be applicable to the ECS as well. On the issue of potential duplication of claims, we note that the Petitioner has already filed a separate Petition the Uttar Pradesh Electricity Regulatory Commission (UPERC) for NPCL's proportionate share. The Petitioner has also confirmed that the compensation sought in the present Petition is strictly limited to TANGEDCO's 100 MW allocation, thereby ruling out the possibility of duplicate recovery.

20. In view of the above, the Commission, approves the final capital cost of ₹13.37 crores for the installation of the De-NOx system and auxiliaries in Unit-2 of the Petitioner's thermal power plant, subject to adjustment for the gross asset value of Rs. 0.73 crore of the dismantled equipment. Accordingly, after deducting this amount, the Commission

approves the net admissible capital cost of ₹12.64 crores for the purpose of determination of compensation under the 'Change in Law' provision of the PPA.

Operation & Maintenance Expenses

21. With respect to Operation & Maintenance (O&M) expenses, it is noted that the Commission, in Suo Motu Order dated 13.08.2021 in Petition No. 06/SM/2021, allowed O&M expenses at 2.5% of the additional capital cost (excluding IDC and FERV), with 3.5% annual escalation up to 31.03.2024. In the first year, it is allowed proportionately based on ECS operation, and the norms will be reviewed after 31.03.2024. The relevant extracts of the Suo Motu Order are as under:

“
44. Accordingly, the Commission is of the view that operation and maintenance expenses shall be allowed @2.5% (instead of 2% proposed in the draft Suo-Motu order) of the additional capital expenditure (ACEe) for installation of ECS (excluding IDC and FERV) as admitted by the Commission and to be escalated at the rate of 3.5% per annum for the period up to 31.03.2024 and, thereafter, the norms shall be reviewed based on available data. Till 31.03.2024, the additional O&M expenses (O&Me) shall be worked out as follows:

First Year: 2.5% of ACEe excluding IDC and FERV (to be allowed proportionately if operation of ECS is for part of the year).

Second Year onwards: 2.5% of ACEe escalated annually at the rate of 3.5%.
.....”

22. Subsequently, the Commission, in its Suo Motu Order dated 29.11.2024 in Petition No. 04/SM/2024, revised the recovery relating to O&M expenses, including depreciation, cost of debt and equity, and interim relief. With respect to O&M expenses, it had decided that, in the absence of actual O&M cost data, normative O&M expenses for the emission control systems (ECS) shall be allowed at 2% of the admitted capital cost (excluding IDC, IEDC, and FERV), with annual escalation at 5.25% up to 31.03.2029 or until revised based on the actual data. The Commission also directed that any income from the sale of gypsum

or other by-products must be deducted from such expenses and that generating companies must maintain ECS O&M costs separately and submit them to the Commission as and when required. The relevant extracts of the Suo Motu Order are as under:

“.....

30. We have considered the suggestions of the stakeholders. We agree with the suggestions of the distribution licensees and the consumer groups that a lack of O&M data should not be detrimental to the beneficiaries. In the 2024 Tariff Regulations, the Commission has specified the norm of the O&M expenses of the emission control system as 2% of capital cost for the interim period till the norms are based on actual data.

31. Accordingly, the Commission is of the view that operation and maintenance expenses shall be allowed @2.0% of the additional capital expenditure (ACEe) for installation of ECS (excluding IDC, IEDC, and FERV) as admitted by the Commission and to be escalated at the rate of 5.25% per annum till 31st March 2029 or revision by the Commission based on availability of data, whichever is earlier. Till 31.03.2029, the additional O&M expenses (O&Me) shall be worked out as follows

First Year: 2.0% of ACEe excluding IDC, IEDC, and FERV (to be allowed proportionately if the operation of the ECS is for part of the year)

Second Year onwards: 2.0% of ACEe escalated annually at the rate of 5.25%. The additional O&M expenses payable shall be worked out by reducing the income generated from the sale of gypsum or other by-products from the operation and maintenance expenses.

44A. All generating companies are directed to maintain the operation & maintenance expenses of the emission control system separately and submit them to the Commission as and when directed.”

23. In the present case, the Commission observes that the nature of the De-NOx installation in the present case involved only the replacement of the specific nozzle tips within the boiler system and did not involve the addition of standalone capital-intensive equipment like SCR or SNCR modules requiring continuous auxiliary operations or dedicated maintenance staff. As such, this activity does not give rise to incremental O&M requirements distinct from the station's regular O&M functions. It is noted that the Commission in Para 31 of Order dated 29.11.2024 in Petition No. 04/SM/2024, has laid

down that the O&M expenses shall be allowed only in cases where actual ECS systems are installed and involve standalone capital equipment, with the norm being 2% of ACE (excluding IDC, IEDC, and FERV). Since the present installation involved no such capital equipment but merely the replacement of nozzle tips, the Commission is of the considered view that no O&M expenses are admissible for this activity. Accordingly, no separate provision towards O&M shall be allowed in the Supplementary Tariff computation in the present case.

Supplementary Tariff

24. The Petitioner has submitted that it has recalculated the Compensation/Supplementary Tariff for the De-NOx system in Unit 2 based on the norms specified in the Commission's Orders dated 13.08.2021 (Petition No. 06/SM/2021) and 29.11.2024 (Petition No. 04/SM/2024). As per the Petitioner, the revised calculation shows only a minimal change in the tariff.

25. The Commission has analysed the submissions of the parties and, based on the approved net admissible capital cost of ₹12.64 crores, the Supplementary Tariff for the De-NOx system in Unit 2 shall be calculated and recovered in accordance with the principles laid down in the Suo Motu Order dated 13.08.2021 in Petition No. 06/SM/2021 for the period from 13.11.2023 to 28.11.2024 and for the period 29.11.2024 onwards as per Suo Motu Order dated 29.11.2024 in Petition No. 04/SM/2024. Recovery of the Supplementary Tariff shall be limited to the contracted 100 MW with TANGEDCO and shall commence from 30.11.2023 through monthly energy bills, following the framework specified in the aforementioned Suo Motu Orders.

Carrying Cost

26. As per the Petitioner, it is entitled to recover the carrying cost on the revenue gap arising from the delay between the operationalization of the De-NOx system in DIL Unit 2 on 30.11.2023 and the actual payment of compensation. Citing the Commission's Order dated 13.08.2021 (06/SM/2021), the Petitioner has highlighted that carrying cost is allowed under the principle of restitution, even if not expressly mentioned in the PPA, as upheld by the APTEL and the Hon'ble Supreme Court. Accordingly, the Petitioner has requested for compensation via Supplementary Tariff for the 100 MW contracted capacity, along with carrying cost at the applicable TANGEDCO PPA rate.

27. Articles 10.2, 10.3 and 10.5 of the PPA read as follows:

"10.2 Application and Principles for computing impact of Change in Law 10.2.1: While determining the consequence of Change in Law under this Article 10, the Parties shall have due regard to the principle that the purpose of compensating the Party affected by such Change in Law, is to restore through monthly Tariff Payment, to the extent contemplated in this Article 10, the affected Party to the same economic position as if such Change in Law has not occurred.

10.3. Relief for Change in Law

10.3.1. -----

10.3.2. During Operating Period: The compensation for any decrease in revenue or increase in expenses to the Seller shall be payable only if the decrease in revenue or increase in expenses of the Seller is in excess of an amount equivalent to 1% of the value of the standby Letter of Credit in aggregate for the relevant Contract Year.

10.3.3 For any claims made under Articles 10.3.1 and 10.3.2 above, the Seller shall provide to the Procurer(s) and the Appropriate Commission documentary proof of such increase/ decrease in cost of the Power Station or revenue/ expense for establishing the impact of such Change in Law.

10.3.4 The decision of the Appropriate Commission, with regards to the determination of the compensation mentioned above in Articles 10.3.1 and 10.3.2, and the date from which such compensation shall become effective, shall be final and binding on both the Parties subject to right of appeal provided under applicable Law.

.....



10.5 Tariff Adjustment Payment on account of Change in Law

10.5.1 Subject to Article 10.2, the adjustment in monthly Tariff Payment shall be effective from:

(i) the date of adoption, promulgation, amendment, re-enactment or repeal of the Law or Change in Law; or

(ii) the date of order/ judgment of the Competent Court or tribunal or Indian Governmental Instrumentality, if the Change in Law is on account of a change in interpretation of Law.

10.5.2 The payment for Change in Law shall be through Supplementary Bill as mentioned in Article 8.8. However, in case of any change in Tariff by reason of Change in Law, as determined in accordance with this Agreement, the Monthly Invoice to be raised by the Seller after such change in Tariff shall appropriately reflect the changed Tariff.”

28. Clause 10.3 of the PPA provides for a compensation methodology to be applied, if a Change in Law event results in an increase in capital cost during the operating period, e.g. the instant Change in Law event requiring the installation of a De-NOx system. Clause 10.3.4 of the PPA provides for the Commission to arrive at the compensation for any increase/ decrease in revenues or costs. Also, as per Clause 10.2 of the PPA, the purpose of compensating the Party affected by such Change in Law is to restore, through Monthly Tariff Payments, to the extent contemplated in this Article 10, the affected Party to the same economic position as if such Change in Law had not occurred.

29. As already stated, the Commission has issued Suo-Motu order in Petition No. 06/SM/2021 dated 13.8.2021, providing detailed compensation mechanism on account of Change in Law (for installation of ECS) during operation phase of thermal generating station, whose tariff is determined under Section 63 of the Act, wherein the Commission has already held the generating company's entitlement to the carrying cost in light of the restitutionary principle contained in the PPA. Accordingly, the Petitioner shall be entitled to carrying cost starting from 30.11.2023 (the system's operational date) till the date of

issuance of this Order, at the actual rate of interest paid by the Petitioner for arranging funds (supported by Auditor's Certificate) or the rate of interest on working capital as per the applicable Tariff Regulations prevailing at that time or the late payment surcharge rate as per the PPA, whichever is the lowest. Once a supplementary bill is raised by the Petitioner in terms of this order, the provision of a Late Payment Surcharge in the PPA would kick in if the payment is not made by the Respondents within the due date.

30. The summary of the Commission's decision is as follows:

- a) The final capital cost of ₹13.37 crore for the installation of the De-NOx system and auxiliaries in Unit-2 is approved, subject to a downward adjustment of ₹0.73 crore towards the gross asset value of dismantled equipment. Accordingly, the net admissible capital cost for compensation under the 'Change in Law' provision is ₹12.64 crore.
- b) No O&M expenses shall be admissible towards the De-NOx system installed, as it constitutes mere replacement of nozzle tips.
- c) Based on the approved capital cost of ₹12.64 crore, the Supplementary Tariff for the De-NOx system in Unit 2 shall be calculated and recovered in accordance with the principles laid down in the Suo Motu Order dated 13.08.2021 in Petition No. 06/SM/2021 for the period from 13.11.2023 to 28.11.2024 and for the period 29.11.2024 onwards as per Suo Motu Order dated 29.11.2024 in Petition No. 04/SM/2024. The recovery will be limited to the contracted 100 MW with TANGEDCO and will begin on 30.11.2023 through monthly energy bills, following the specified framework.
- d) The Petitioner is entitled to carrying cost in terms of the order dated 13.8.2021 in Petition No. 6/SM/2021.
- e) The Petitioner shall maintain detailed records and documentation supporting the capital expenditure and the de-capitalized asset values.



31. The Petitioner has submitted that it has filed a Petition before UPERC to determine the NPCL's share of costs for complying with environmental norms through the installation of the De-NOx system. Accordingly, a copy of this order should be sent to the UPERC for its information and record.

32. With regard to the contention of the Petitioner that the Order dated 13.8.2021 in Petition No. 06/SM/2021 has been challenged by the Association of Power Producers (APP) before the Appellate Tribunal for Electricity (Appeal No. 306 of 2021), and the matter is currently pending. Accordingly, the Petitioner sought permission to amend the Petition, if required. The Petitioner is always free to approach the Commission in accordance with the law. Therefore, no specific direction is required in this regard.

33. Petition No. 263/MP/2024 is disposed of in terms of the above.

Sd/-
(Ravinder Singh Dhillon)
Member

sd/-
(Harish Dudani)
Member

sd/-
(Ramesh Babu V)
Member

sd/-
(Jishnu Barua)
Chairperson

