CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 261/MP/2022

Coram:

Shri Jishnu Barua, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member

Date of Order: 08.01.2024

In the matter of:

Petition under section 79(1)(b) of the Electricity Act, 2003 read with Article 10 Case-1 Long Term Power Purchase Agreement dated 27.11.2013 along with Addendum dated 20.12.2013 seeking an in-principle approval of the ACE to be incurred on account of installation of De-NO_x System necessitated by Change-in-Law event, i.e. Environment (Protection) Amendment Rules, 2015 dated 7.12.2015, Environment (Protection) Amendment Rules, 2018 dated 28.6.2018, Environment (Protection) Amendment Rules, 2020, Environment (Protection) Amendment Rules, 2021 issued by Ministry of Environment, Forest & Climate Change read with letter dated 1.10.2021 issued by Maharashtra Pollution Control Board.

And in the matter of:

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

Vs.

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

2. Noida Power Company Limited,
   Plot No. E.S.S., Knowledge Park-IV,
   Greater Noida,
   Uttar Pradesh-201310. **…Respondent(s)**

For Petitioner	**:**	Ms. Divya Chaturvedi, Advocate, DIL Ms. Srishti Rai, Advocate, DIL Ms. Kritika Khanna, Advocate, DIL Shri Shubhayu Sanyal, DIL
For Respondents	**:**	Ms. Anusha Nagarjan, Advocate, TANGEDCO Shri Rahul Ranjan, Advocate, TANGEDCO Ms. Sakie Jakharia, Advocate, TANGEDCO Ms. Chumei Mercy, Advocate, TANGEDCO

ORDER

Dhariwal Infrastructure Limited (DIL) has filed the instant petition under Section 79(1)(b) of the Electricity Act, 2003 (hereinafter referred to as "the 2003 Act") read with Article 10 Case-1 Long Term Power Purchase Agreement dated 27.11.2013 along with Addendum dated 20.12.2013 for approval of additional capital expenditure (ACE) on account of installation of NO_x abatement System (hereinafter referred to as "De-NO_x") at Tadali, Chandrapur, Maharashtra, necessitated by Change-in-Law event, i.e. Environment (Protection) Amendment Rules, 2015 dated 7.12.2015, Environment (Protection) Amendment Rules, 2018 dated 28.6.2018, Environment (Protection) Amendment Rules, 2020 (hereinafter referred to as "the 2020 MoEFCC Notification)", Environment (Protection) Amendment Rules, 2021 (hereinafter referred to as "the 2021 MoEFCC Notification) issued by Ministry of Environment, Forest & Climate Change ("MoEFCC") read with letter dated 1.10.2021 issued by Maharashtra Pollution Control Board.

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

"(i) Admit the Petition
(ii) Declare that the Amendment Rules vide MoEFCC Notifications dated 07.12.2015,

28.06.2018, 19.10.2020 and 31.03.2021 read with the MPCB Letter dated 01.10.2021 qualify as a 'Change in Law' event for Unit 2 of the Petitioner's Generating Station in terms of Article 10 of the TANGEDCO PPA.

(iii) Approve in-principle the estimated total Capital Cost of ₹ 17.72 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 dampers and actuators and Low Excess Air Firing for 300 MW Unit 2 of the Generating Station in line with the recommendation of the CEA as proposed in the present Petition for meeting the revised emission norms in respect of NO_x as per the Amendment Rules, subject to revision based on the actual cost incurred by the Petitioner.

(vi) Grant liberty to the Petitioner to approach this Hon'ble Commission with a separate Petition in due course of time for determination of Compensation/Supplementary Tariff on account of 'Change in Law' event and recovery thereto through invoice based on the actual Capital Cost incurred due to installation of the De-NOx system, to the extent of supply of 100 MW Net Contracted Capacity to the Respondent.

(v) 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

(vi) Pass such other/further order(s) as this Hon'ble Commission may deem fit in the present facts and circumstances."

Background

3. Background of the instant petition is as follows:

(a) The Petitioner is generating power from its 2x300 MW coal-based thermal generating station located at Tadali, Chandrapur, in the State of Maharashtra and supplying power to the Respondents.

(b) The Petitioner entered into the Power Purchase Agreement (PPA) dated 27.11.2013 with the Tamil Nadu Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) for the supply of 100 MW Net contracted capacity from Unit-2 of the generating station to TANGEDCO. Additionally, the Petitioner on 20.12.2013 had signed an Addendum No. 1 to PPA dated 27.11.2013. Unit-2 achieved its COD on 2.8.2014. Accordingly, the Petitioner commenced the supply of power to TANGEDCO w.e.f. 16.12.2015, subsequent to the operationalization of Long-term Access ("LTA") by the Central Transmission

Utility of India Limited (CTUIL). TANGEDCO's PPA was approved by the Tamil Nadu Electricity Regulatory Commission (TNERC).

(c) The Petitioner is also supplying 187 MW gross generated capacity on a long-term basis from Unit-2 of the generating station to Noida Power Company Limited (NPCL) as per PPA executed on 26.9.2014, read with Addendum No. 1 dated 4.9.2019. NPCL PPA was approved by the Uttar Pradesh Electricity Regulatory Commission (UPERC).

(d) As per MoEFCC, on 7.12.2015, notified the Environment (Protection) Amendment Rules, 2015 (hereinafter referred to as "the 2015 EP Rules") all thermal power plants, including the Petitioner's project, are required to comply with the revised emission norms as specified in the MoEFCC Notification. The said Rules were notified after two years from the cut-off date of 27.2.2013. The amended norms specified by MoEFCC Notification are as follows:

"

Sr. No.	***Industry***	***Parameter***	***Standards***
25.	*Thermal Power Plants*	*Particulate Matter Emission:* - *Generating capacity 210 MW or more* - *Generating capacity less than 210 MW*	*150 milligrame per normal cubic meter* *350 miligramme per normal cubic meter*

"

(e) MoEFCC, on 28.6.2018 further amended the 2015 EP Rules and notified the Environment (Protection) Amendment Rules, 2018 (hereinafter referred to as "the 2018 EP Rules") to stipulate that the monitored values of Sulphur Dioxide ("SO_2"), Nitrogen Oxide ("NO_x") and Particulate Matter ("PM") were to be corrected to 6% Oxygen on dry basis for the purpose of compliance of the 2015 EP Rules.

(f) The 2015 EP Rules categorize the thermal power projects into three categories: (i) executed prior to 2003, (ii) executed between 2004 and 2016, and (iii) to be executed after 1.1.2017. As per MoEFCC Notification, the generating station falls under category (ii) of the revised standard. Accordingly, the applicable environment norms applicable to the Petitioner's generating station are as follows:

Sl. No.	Parameter	Standards
1.	Water Consumption	All existing CT-based plants to reduce specific water consumption upto maximum of 3.5 m^3/MWh.
2.	PM for TPPs (units) installed after 1.1.2003 upto 31.12.2016	50 mg/Nm^3
3.	Sulphur Dioxide (SO_2) for TPPs (units) installed after 1.1.2003 upto 31.12.2016	600 mg/Nm^3 (units having capacity below 500 MW)
4.	Oxides of Nitrogen (NO_x) for TPPs (units) installed after 1.1.2003 upto 31.12.2016	300 mg/Nm^3
5.	Mercury (Hg) for TPPs (units) installed after 1.1.2003 upto 31.12.2016	0.03 mg/Nm^3
6.	Stack Height for Thermal Power plants with wet FGD	$H = 6.902 (Q \times 0.277)^{0.555}$ or 100 m minimum Where, Q = Emission rate of SO_2 in kg/hr H = Physical stack height in meter (units having capacity 100 MW or above)

Note: *All monitored values for SO_2, NO_x and PM shall be corrected to 6% Oxygen, on dry basis.*

(g) Initially, the requisite compliance pertaining to new emission standards as per the 2015 EP Rules was to be carried out by all the thermal generating stations within two years of the MoEFCC Notification i.e. by 7.12.2017. However, based upon recommendations of various stakeholders, MoEFCC vide letter dated 7.12.2017 directed the Central Pollution Control Board ("CPCB") to issue new directives to all thermal generating stations that all the emission norms notified through the 2015 EP Rules shall be met by them by the year 2022. Accordingly, CPCB *inter-alia* revised the timeline for compliance with the NO_x emission limit for

the Petitioner's Generating Station to 31.3.2022 vide its Letter No. B/33014/07/2017-18/IPC-II/TPP/15916 dated 11.12.2017, as follows:

> "….
> i. *That plant shall meet emission limit of PM immediately by installing Electrostatic Precipitator (ESP)*
> ii. *That plant shall install FGD by March 31, 2022 in Unit 1 & 2 so as to comply SO_2 emission limit*
> iii. *That plant shall take immediate measure like installation of low NOx burners, providing Over Fire Air (OFA) etc. and achieve progressive reduction so as to comply NOx emission limit by the year 2022*
>
> …"

(h) MoEFCC, on 19.10.2020, notified the Environment (Protection) Amendment Rules, 2020 (hereinafter referred to as "the 2020 EP Rules") as per the directions of the Hon'ble Supreme Court passed vide order dated 5.8.2.2019 in W.P.(C) No. 13029/1985, titled as 'M. C. Mehta Versus Union of India', thereby revising the standards for emission of NO_x from 300 mg/Nm^3 to 450 mg/Nm^3 for thermal power plants installed after 1.1.2003 and up to 31.12.2016. Accordingly, as per the 2020 EP Rules, the applicable standard for NO_x reduction for Unit-2 of the Petitioner's generating station, which was put under commercial operation on 2.8.2014, is 450 mg/Nm^3.

(i) MoEFCC, on 31.3.2021, notified the Environment (Protection) Amendment Rules, 2021 (hereinafter referred to as "the 2021 EP Rules") and revised the emission standards norms as follows:

> *"*(i) A task force shall be constituted by Central Pollution Control Board (CPCB) comprising of representative from Ministry of Environment and Forest and Climate Change, Ministry of Power, Central Electricity Authority (CEA) and CPCB to categorise thermal power plants in three categories as specified in the Table-I on the basis of their location to comply with the emission norms within the time limit as specified in column (4) of the Table-I, namely: -*

Table-I

Sl. No.	***Category***	***Location/area***	***Timelines for compliance***	
			Non retiring units	***Retiring units***
(1)	*(2)*	*(3)*	*(4)*	*(5)*
1	*Category A*	*Within 10 km radius of National Capital Region or cities having million plus population[1].*	*Upto 31st December 2022*	*Upto 31st December 2022*
2	*Category B*	*Within 10 km radius of Critically Polluted Areas[2] or Non-attainment cities[2]*	*Upto 31st December 2023*	*Upto 31st December 2025*
3	*Category C*	*Other than those included in category A and B*	*Upto 31st December 2024*	*Upto 31st December 2025*

[1] As per 2011 census of India.

[2] As defined by CPCB."

(j) In pursuance to the 2021 EP Rules, the Maharashtra Pollution Control Board (MPCB) vide its letter No. BO/JD(APC)/TPS/DTB-2/Dir-0007 dated 1.10.2021 classified the generating station as 'Category B' and revised the deadline for meeting the emission standards to 31.12.2023.

(k) The plant and machinery erected by the Petitioner at the Generating Station are not as per the emission standard norms stipulated in the 2020 EP Rules as the existing infrastructure of Unit-2 of the Generating Station is not sufficient to meet the emission standard norms and thus obligating the Petitioner to implement the requisite De-NO_x technology.

(l) The various amendments in the Environment (Protection) Rules, 1986, read with the MPCB notification dated 1.10.2021, are in the nature of a 'Change in Law' event as per Article 10 of the TANGEDCO PPA.

(m) As per Article 10 of the TANGEDCO PPA, the Petitioner is entitled to monetary compensation on account of 'Change in Law' events.

(n) The Ministry of Power (MoP) issued a direction to the Commission vide

communication dated 30.5.2018, stating that the 2015 EP Rules qualify as an event under 'Change in Law' with respect to PPAs made between generating companies and distribution licensees and the cost implication due to installation of Emission Control System (ECS), its operational cost to meet the new norms shall be considered for being made pass through in tariff by the Commission. The relevant portion of MoP directions are as follows:

> *"….*
> *5.1 The MoEFCC Notification requiring compliance of Environment (Protection) Amendment Rules, 2015 dated 7th December, 2015 is of the nature of Change in Law event except in following cases:*
> *a) Power Purchase Agreements of such TPPs whose tariff is determined under Section 63 of the Electricity Act, 2003 having bid deadline on or after 7th December, 2015; or*
> *b) TPPs where such requirement of pollutions control system was mandated under the environment clearance of the plant or envisaged otherwise before the notification of amendment rules;*
> *5.2 The additional cost implication due to installation or up-gradation of various emission control systems and its operational cost to meet the new environment norms, after award of bid or signing of PPA as the case may be, shall be considered for being made pass through in tariff by Commission in accordance with the law.*
> *…..*
> *5.4 For the TPPs that are under the purview of the Central Commission, the Commission shall develop appropriate regulatory mechanism to address the impact on tariff, and certainty in cost recovery on account of additional capital and operational cost, under concluded long term and medium term PPAs for this purpose.*
> *……"*

(o) The Commission vide order dated 13.8.2021 in Petition No. 6/SM/2021 has held that the parties to the power purchase agreements have agreed to the compensation to be determined by the Commission and to restitute the affected party to the same economic position as if the 'Change in Law' event has not occurred.

(p) The Commission vide order dated 29.3.2020 in Petition No. 327/MP/2018 and IA No.87/IA/2018 directed the Petitioner to approach the Commission for

obtaining approval of an increase in tariff on account of all expenditure (including capital expenditure and operational expenses) pertaining to ECS including Flue Gas Desulphurization (FGD) plant, in compliance to the 2015 EP Rules dated 7.12.2015.

(q) The Petitioner vide order dated 26.9.2020 in Petition No. 636/MP/2020 sought an in-principle approval for the additional capital cost to be incurred for installation of FGD system for SO_2 control and further sought liberty to approach the Commission later for obtaining in-principle approval of the additional capital expenditure and operational expenses on account of implementation of remaining ECS required to be installed in compliance with the revised emission norms. Thus, the Petitioner, through the instant petition, is seeking approval of the additional expenditure to be incurred towards the installation of such other ECS, which is required to comply with the revised NO_x emission norms.

(r) The Petitioner vide its letter No. DIL/GM-Coord/TANGEDCO/1348, dated 13.8.2020, has duly served the 'Change in Law' Notice on TANGEDCO for identification of the technology for NO_x abatement.

(s) The Petitioner engaged Tata Consulting Engineers Limited (TCE) in August 2021 to study and identify the technologies available for NO_x abatement and provide comprehensive optimal solutions to comply with the new NO_x emission limits.

(t) The Central Electricity Authority (CEA), on 22.9.2021, accorded approval to TCE's FR report on the proposed NO_x abatement system for meeting the norm of 450 mg/Nm^3 and advised the Petitioner to approach the Commission for further

course of action.

4. The Petitioner has filed the instant petition for in-principle approval of the ACE to be incurred by the Petitioner on account of the installation of NO_x Abatement ("De-NO_x") system necessitated by a 'Change in Law' event, in compliance with the 2015 EP Rules dated 7.12.2015. The Petitioner has made the following prayers:

(a) Declare that the Environment Protection Amendment Rules qualify as a 'Change in Law' event, as per Article 10 of the TANGEDCO PPA.

(b) Approve in-principle the estimated total capital cost of ₹15.14 crore 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 dampers and actuators and Low Excess Air Firing for 300 MW Unit-2 of the generating station in accordance with the recommendation of CEA in order to meet revised ECS, subject to revision based on the actual cost incurred by the Petitioner.

(c) Grant liberty to approach the Commission with a separate petition for determination of compensatory/supplementary tariff on account of the 'Change in Law' event and recover the capital cost incurred in the installation of De-NO_x System, to the extent of supply of 100 MW Net Contracted Capacity.

5. The petition was admitted on 16.2.2023 and order was reserved on 11.8.2023. Tamil Nadu Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 1, has filed a reply to the petition vide affidavit dated 9.9.2023. The Petitioner has filed its rejoinder vide affidavit dated 16.9.2023. Noida Power Company Limited (NPCL), Respondent No.2 has not filed any reply. The Petitioner has filed a reply

to the queries raised in the RoPs (Record of Proceedings) dated 16.2.2023 vide affidavits dated 13.3.2023, 4.5.2023 and 31.5.2023, respectively.

6. The final hearing took place on 11.8.2023, and the order was reserved. Having heard the Petitioner and TANGEDCO and perused the documents on record, we proceed to deal with the Petitioner's prayers and the contentions of TANGEDCO.

Submissions of the Petitioner

7. The gist of the submissions made by the Petitioner in the instant petition in support of its claim is as follows:

(a) To comply with the revised ECNs specified in the MoEFCC Notification dated 7.12.2015, the Petitioner is required to install a De-NO_x Abatement System in its generating station. The MoEFCC Notification mandates a reduction in water consumption, PM, SO_2, NO_X and mercury emission.

(b) Regulation 29 of the 2019 Tariff Regulations provides for allowing ACE on account of installation of ECS to meet the revised Emission Control Norms ("ECNs"). The instant petition is filed for approval of ACE to be incurred to comply with revised ECNs as necessitated by the MoEFCC Notification and directions issued by MPCB.

(c) The Unit-2 of the Petitioner is not equipped to meet the norm of NO_x emission notified as per the 2020 EP Rules, even though the same has been revised to 450 mg/Nm^3 at 6% Oxygen, dry basis for generating units having capacity less than 500 MW and put under commercial operations between 1.1.2003 and 31.12.2016. At part-load operating conditions, the values of the NO_x emissions rise beyond the stipulated limit of 450 mg/Nm^3 at 6% Oxygen on a dry basis, even after

operational optimization. The Petitioner is obliged to implement requisite De-NO_x technology in Unit-2 of its generating station in order to control the emission levels of NO_x as per the new norms prescribed by MoEFCC.

(d) The 2015 EP Rules, along with the amended 2021 EP Rules, have been issued by MoEFCC in the exercise of the powers conferred to it under Section 6 and Section 25 of the Act. Such Rules, read with the directions issued by MPCB dated 1.10.2021, are in the nature of a 'Change in Law' event in terms of Article 10 of the TANGEDCO PPA.

(e) The compliance of ECNs entails not only a capital cost but also has an impact on the Operation and Maintenance Expenses ("O&M Expenses"), and some of the operational parameters would impact the Fixed Charges and Energy Charges of Unit-2 of its generating station for supply of 100 MW to Tamil Nadu. Accordingly, the Petitioner ought to be appropriately compensated to restore it to the same economic position in which it would have been had the 'Change in Law' event not occurred.

(f) The Petitioner, under Article 10 of the TANGEDCO PPA, is entitled to compensation in view of the occurrence of the 'Change in Law' situation, thereby resulting in additional recurring/non-recurring expenditures by the Petitioner, which have occurred after the date which is 7 (seven) days prior to the bid deadline of 6.3.2013, i.e. after the cut-off date of 27.2.2013. The relevant provisions of the TANGEDCO PPA are as follows:

> *"**ARTICLE 10: CHANGE IN LAW***
> ***10.1 Definitions***
> *In this Article 10, the following terms shall have the following meanings:*
> *10.1.1 "Change in Law" means the occurrence of any of the following events after the date, which is seven (7) days prior to the Bid Deadline resulting into any*

additional recurring/ non-recurring expenditure by the Seller or any income to the Seller:

- *the enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law;*
- *a change in the interpretation or application of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law, or any Competent Court of Law;*
- *the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;*
- *a change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits; except due to any default of the Seller;*
- *any change in tax or introduction of any tax made applicable for supply of power by the Seller as per the terms of this Agreement.*

but shall not include (i) any change in any withholding tax on income or dividends distributed to the shareholders of the Seller, or (ii) change in respect of UI Charges or frequency intervals by an Appropriate Commission or (iii) any change on account of regulatory measures by the Appropriate Commission including calculation of Availability.

10.2 Application and Principles for computing impact of Change in Law

10.2.1 While determining the consequences of Change in Law under Article 10, the Parties shall have due regard to the principle that the purpose of compensating the Party affected by such Change in Law, it 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

…

10.3.2 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 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.

10.4 Notification of Change in Law

10.4.1 If the Seller is affected by a Change in Law in accordance with Article 10.1 and the Seller wishes to claim relief for such a Change in Law under Article 10, it shall give notice to the Procurer of such Change in Law as soon as reasonably practicable after becoming aware of the same or should reasonably have known of the Change in Law.

10.4.2 Notwithstanding Article 10.4.1, the Seller shall be obliged to serve a notice to the Procurer under this Article 10.4.2, even if it is beneficially affected by a Change in Law. Without prejudice to the factor of materiality or other provisions contained in this Agreement, the Obligation to inform the Procurer contained herein shall be material.
Provided that in case the Seller has not provided such notice, the Procurer shall have the right to issue such notice to the Seller.

10.4.3 Any notice served pursuant to this Article 10.4.2 shall provide, amongst other things, precise details of:
(a) Change in Law; and
(b) the effects on the Seller"

(g) As per Clause 10.3.2 of the TANGEDCO PPA, the increase in revenue, comprised Fixed Charges and Energy Charges due to the installation of ECS, including but not limited to the proposed De-NO_x system, is expected to be in excess of an amount equivalent to 1% of the value of the Standby Letter of Credit in aggregate for the relevant Contract Year(s) as defined in the said PPA.

(h) TCE was engaged in August 2021 for the study and identification of technologies available for NO_x abatement systems to provide comprehensive optimal solutions to comply with the new NO_x emission limits. The recommendations made by TCE in its Feasibility Report (FR) are as follows:

a. Modification of the existing burner.

b. Supply of less excess air (LEA Method).

c. Adoption of new separated over-firing air to facilitate multi-stage control of excess air (SOFA).

d. Modification and Automation of Secondary air damper, actuator and

control (SADC control).

(i) TCE compared available technologies, which are broadly grouped as Combustion Modification/Process and post Combustion Modification/Process. The post-combustion process/control includes sophisticated and high-cost technologies like the Selective Catalytic Reduction ("SCR") System and Selective Non-catalytic Reduction ("SNCR") System, which generally involves the use of a reagent, the combustion controls reduce the level of NO_x emissions by altering or modifying the firing conditions under which combustion is achieved and is the most cost-effective option available for NO_x abatement. As per TCE's FR, at part load operating conditions, even after operational optimization, the values of the NO_x emissions cannot be contained within the stipulated limit of 450 mg/Nm^3 at 6% Oxygen, dry basis.

(j) CEA's Thermal Project Renovation & Modernization division, in its Notification dated 22.6.2021 on 'Flexible Thermal Generation', has proposed that the Indian thermal power plants in the category of 200-600 MW shall operate at 40-45% load for integration of high influx of renewable power generations. In line with the above notification, the design of the primary NO_x abatement system is kept covering the operating range of 40% to 100% TMCR. Accordingly, in consultation and approval of the Boiler OEM, existing system improvement will be carried out with the following system modification:

a. Modification of the existing burner for Supply of less excess air (LEA Method).
b. Adoption of new separated over-firing air to facilitate multi-stage control of excess air (SOFA).

c. Modification and Automation of existing Secondary air damper, actuator and control (SADC control).

(k) As per TCE, the technology groups for commercial evaluation, based on factors like operating load conditions, operating time at various loads, and the efficiency of NO_x control in respect of 450 mg/Nm^3 emission norms, are as follows:

a. Combustion Modification/Process Control
    a. Low NO_x Burners (LNB)
    b. Over Fire Air (OFA)
    c. Low Excess Air Firing
b. Post Combustion Control
    a. Selective Catalytic Reduction (SCR)
    b. Selective Non-Catalytic Reduction (SNCR)
    c. Hybrid SCR-SNCR

(l) The qualitative comparison of the NO_x abatement technology group are as follows:

Types	Description	% Reduction Efficiency
1. Combustion modification		
Low-NOx Burners (LNB)	These are designed to achieve better air and fuel mixture, which leads to staged combustion process in the burner itself as a secondary and tertiary air. This mainly reduces the available air during primary combustion of coal which reduces the fuel NOx	40-45%**
Over Fire Air (OFA)	This process air is staged. Usual range would be 70% through Low NOx burners and 30% through over fire air ports	
Low Excess Air Firing	Regulating the quantity of excess combustion air to create a reducing environment to aid in N_2 formation and limit oxygen available	
2. Post combustion process		
Selective Catalytic Reduction	Ammonia (NH_3) is injected into the flue gas before passes through the catalytic bed	75-85% *
Selective Non Catalytic Reduction	This technology is usually applied for CFBC boilers since the flue gas temperature would be in the range of 850 to 1000°C.	30-60% *
Hybrid SCR-SNCR	Modified SNCR with furnace reagent injection and induct catalyst for enhanced efficiency, reagent utilization and restricted ammonia slip	50-75% **

(Source: US EPA 2005 ** Source: Technology Providers)*

(m) The proposal for the adoption of Combustion Modification/Process for NO_x abatement was made to CEA on 3.9.2021. CEA in its letter dated 22.9.2021, stated that the NO_x limit of 450 mg/Nm^3 could be achieved by implementing only Combustion Modification systems in thermal generating units. Accordingly, CEA has approved the technology to be adopted for NO_x abatement and further advised to approach the appropriate Commission for further course of action.

(n) Modifications for the reduction of primary/uncontrolled NO_x emissions are indicative in nature, and their specific techniques/methods may vary for different Boiler OEMs/ Technology providers, operating characteristics & Boiler designs. Moreover, the exact requirement and extent of modifications will be backed/validated by various associated studies/analyses (related to computational

fluid dynamics, furnace heat zone and temperature profile characteristics, combustion efficiency and performance assessments, etc., as applicable), which needs to be carried out by the OEMs/Technology providers. These aspects will be further reviewed during detail engineering for finalizing and implementing the primary NO_x reduction system modifications.

(o) As per the estimate of TCE in its FR, the entire process of installation and execution of the De-NO_x system in the existing Boiler at Unit-2 of the generating station would take a minimum of 9 to 12 months from the date of placement of order, subject to the following:

a. The time may vary between Boiler OEM and other De-NO_x technology providers considering the access to existing design input, data and documents; and
b. The Unit downtime required for duct-interconnection and modification of the Boiler and its accessories of the existing unit would take about 75-90 days.

(p) As per the estimates of various elements of the Base Capital Cost provided by TCE in its FR, the total capital cost towards the proposed De-NO_x abatement system implementation in Unit-2 is estimated to be ₹17.72 crore, including initial spares, taxes & duties, insurance, Interest During Construction ("IDC"), Incidental Expenditure During Construction ("IEDC") and financing charges. The estimated capital cost of the De-NO_x system of Unit-2 is subject to finalization upon completion of the same based on actual incurred costs. The capital cost of the De-NO_x system has been envisaged based on the present market rates, and such estimates may differ from the actual expenditure made later based on the prices discovered through

competitive bidding. The break-up of the estimated capital cost as TCE'S FR is as follows:

DIL Unit 2 - Break-up of Estimated Capital Cost of proposed De-NOx System			
Particulars	**Annotation**	**Unit 2**	
		₹ Crores	**₹ Crores/MW**
Hard Capital Cost			
Equipment & Material supply	a	8.56	0.029
Cost of IO card including cabling and DCS modification and Automation	b	0.32	0.001
Initial Spares (@4% of Plant & Machinery Cost as per Feasibility Report)	c=4%*(a+b)	0.36	0.001
Total Hard Capital Cost of De-NOx System	**d=sum(a:c)**	**9.24**	**0.031**
Soft Capital Cost			
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test - **Service Cost**	e	3.21	0.011
Engineering and Project Management cost	f	0.58	0.002
Contingency Reserve	g	0.58	0.002
Total Base Capital Cost of De-NOx System	**h=sum(d,e,f,g)**	**13.61**	**0.045**
Taxes & Duties (Weighted Average Rate of GST @22.23% of Total Hard Capital Cost & Service Cost)	i=(d+e)*22.23%	2.77	0.009
Insurance (@1% of Total Base Capital Cost)	j=h*1%	0.14	0.000
IEDC (Pre-Operative Expenses, Overheads and Consultancy Charges) (@2% of Total Base Capital Cost)	k=h*2%	0.27	0.001
IDC (@Rate of Interest 10.50%)	l	0.75	0.002
Financing Charges (@1.5% of Normative Loan at 70% of Total Capital Cost)	m = o*70%*1.5%	0.19	0.001
Total Soft Capital Cost of De-NOx System	**n = sum(e,f,g,i:m)**	**8.48**	**0.028**
Total Capital Cost of De-NOx System	**o = d+n**	**17.72**	**0.059**

(q) In the De-NO_x abatement system, the aspects of estimated hard capital cost and soft capital cost involved are as follows:

Hard Capital Cost of the De-NO_x system:

i) Cost of equipment and material supply and other related modifications;
ii) Cost of IO card including cabling and DCS modification and Automation; and
iii) Cost of Initial Spares.

Soft Capital Cost of the De-NO_x system:

i) Cost of Dismantling, Removal, Installation, Erection, Commissioning, Performance Guarantee Test and Reliability Run Test or Service Cost;
ii) Engineering and Project Management cost;

iii) Contingency Reserve;
iv) Taxes & Duties;
v) Insurance;
vi) IEDC (Pre-Operative Expenses, Overheads and Consultancy Charges);
vii) IDC; and
viii) Financing Charges.

(r) The total hard capital cost of the De-NO_x system has been estimated at ₹9.24 crore (₹0.031 crore/MW) of installed capacity of Unit-2. The service cost includes the cost of dismantling, removal, installation, erection, commissioning, Performance Guarantee Test and Reliability Runt Test, which is estimated at ₹3.21 crore. The cost for Engineering & Project Management has been estimated as ₹0.58 crore. The Contingency Reserve of ₹0.58 crore has been considered for uncertain expenditure associated with the project. Inclusive of all the said costs, the entire Base Capital Cost of the De-NO_x system works out to be ₹13.61 crore (₹0.045 crore/MW) of the installed capacity of Unit-2.

(s) Taxes and duties at the weighted average rate of taxes on the hard capital cost and service cost, considering various applicable rates of GST, have been considered as ₹2.77 crore. The insurance cost (including transportation insurance) has been estimated as ₹0.14 crore (@ 1% of the Base Capital Cost of the De-NO_x abatement system).

(t) IEDC has been worked out as ₹0.27 crore (@2% of the base capital cost of the De-NO_x abatement system), and the same includes cost on account of pre-operative expenses (including security), overheads, manpower costs, administrative & general expenses incurred during the retrofitting and commissioning of the De-

NO_x system, consultancy charges, and cost of power and water for construction and commissioning activities.

(u) IDC has been computed as ₹0.75 crore, phased over the period of 15 months, considering the installation time of the De-NO_x system and the shutdown time required for retrofitting the existing system.

(v) Inclusive of the above charges, the total soft capital cost works out to be ₹8.48 crore (₹0.028 crore/MW). The said soft capital cost also includes the estimated financing charges of ₹0.19 crore.

(w) The actual break-up of the capital cost involved can be ascertained after competitive bidding. the above break-up of the capital cost of the De-NO_x system is, therefore, only indicative. The retrofitting of the De-NO_x system in an existing generating Unit would depend on the specifics of each project, for example, thetype and quality of coal, original technical design, availability of space, compatibility of the original technology with the proposed modification, etc.

8. The Petitioner has sought liberty to approach the Commission with the revised capital cost of the De-NO_x system after completion of the tendering/competitive bidding process based on the discovered prices and determination of the supplementary tariff corresponding to the 100 MW Net Contracted Capacity for recovery from the Respondent towards supply of power under the TANGEDCO PPA.

Reply of TANGEDCO

9. TANGEDCO has made the following submissions in its reply:

(a) As Regulation 29(1) and Regulation 29(2) of the 2019 Tariff Regulations, the Petitioner is required to share the proposal for installation and implementation

of ECS, comprising the details of the proposed technology, scope of work, capital cost as per bidding, indicative impact on the tariff, and all other relevant information with the beneficiaries and thereafter file the petition for approval of the proposal.

(b) The Petitioner was aware of the Notification of MoEFCC dated 7.12.2015. The Petitioner has failed to take the appropriate steps towards compliance with the MoEFCC Notification pertaining to the installation of ECS till August 2021, when TCE conducted the study of the Petitioner's generating station and submitted its FR. CEA approval was accorded on 22.9.2021. The Petitioner floated the tender after one year, i.e. on 15.10.2022, for the supply of the De-NO_x system and auxiliaries under international competitive bidding. Letter of Intent (LoI) was issued to Ge Power India Limited (GEPIL) on 15.5.2023 for the supply of the De-NO_x system and auxiliaries. Accordingly, the revised estimated capital cost was worked out to ₹15.14 crore, including initial spares, taxes & duties, insurance, IEDC, IDC and financing charges.

(c) The delay on the part of the Petitioner has substantially raised the project cost for the installation of ECS, and the same has to be borne by the ultimate consumers. The Petitioner has not provided the reasons for the delay, especially after obtaining the clearance from CEA in September 2021.

(d) The Petitioner has not submitted the monthly minimum and maximum SO_x and NO_x emission levels of its Unit during the last 3 to 5 years. The claims of the Petitioner are only based upon a letter dated 30.5.2018, written by MoP to the Commission. As per paragraph 5.1(b) of the MoP letter dated 30.5.2018, the Petitioner's generator falls under the exception and cannot claim any compensation

under 'Change in Law'. The Environmental Clearance ("EC") of MoEFCC granted to the Petitioner was prior to the bid deadline date. The EC specifically requires the generator to provide funds to comply with the conditions stipulated in the EC and to include the same as part of the project cost. The Petitioner cannot violate the conditions mandated under the EC. The relevant portion of the MoP letter dated 30.5.2018 is as follows:

> *"……*
> *5.1 The MOEFCC Notification requiring compliance of Environment (Protection) Amendment Rules, 2015 dated 7th December 2015 is of the nature of Change in Law event except in following cases:*
>
> *a) Power purchase Agreements of such TPPs whose tariff is determined under section 63 of the Electricity Act 2003 having bid deadline on or after 7th December, 2015; or*
> *b) TPPs where such requirement of pollution control system was mandated under the environment clearance of the plant or envisaged otherwise before the notification of amendment rules;*
>
> *……"*

(e) EC was granted to the Petitioner by MoEFCC on 4.12.2009. As per the conditions of EC, the cost of provision of EC measures ought to be included in the project cost, which was reflected in the capacity charge quoted by the Petitioner at the time of bidding. The Petitioner cannot claim ACE on this ground to be passed through in the capacity charge. It was mandatory on the part of the Petitioner to make provision for ECS in its capital cost prior to the bidding and include the same in the bid. Therefore, it is evident that, as per EC granted to the Petitioner, the bid cost includes the cost of ECS. The Petitioner cannot now claim it as a 'Change in Law', and the petition is liable to be rejected. The relevant portion of EC dated 4.12.2009 is as follows:

> *"….*
> *vi. High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3*

…

xxii. Regular monitoring of ground level concentration of So2, NOx, RSPM(PM10 & PM2.5) and Hg shall be carried out in the impact zone and record maintained……..

…

xxx. The Proponent shall upload the status of compliance of the stipulated EC conditions including result of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective zonal office of CPCB and SPCB. The criteria pollutant level namely SPM, RSPM(PM10 & PM 2.5), SO2 and NOx (ambient levels as well as stack emissions) shall be displayed at a conventional location near the main gate of the company in the public domain.

…

xxxv. Separate funds shall be allocated for the implementation of environmental protection measures along with item -wise break up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year wise expenditure should be reported to the Ministry."

(f) The Petitioner was well aware that it had to comply with the SO_2 emission norms prescribed from time to time, and to monitor the same. In this regard, EC further specifically stipulates the condition to install a bi-flue stack of 275 m height with continuous online monitoring equipment to monitor the emission levels of SO_2, NO_x and PM. The claim for enhancement of the capital cost in the absence of the allocation of separate funds for installing FGD which is to be included as part of the project cost.

(g) The Petitioner is not entitled to press the claim of 'Change in Law' in view of the APTEL's judgment in Appeal No. 105 of 2011 dated 21.11.2013 titled as 'M/s. JSW Energy Limited Vs. Maharashtra State Electricity Distribution Co. Ltd & Anr.'

(h) Any cost incurred by the Petitioner due to default in compliance with the terms and conditions of EC cannot be now sought to be granted under the 'Change in Law' clause of PPA. This frustrates the terms and conditions of EC as well as the TANGEDCO PPA. Moreover, TANGEDCO-DIL PPA is only for 100 MW and,

therefore, the share of expenditure towards TANGEDCO in-principle liability should be apportioned in terms of use of the power of 100 MW from Unit-2 of the power plant.

(i) TANGEDCO-DIL PPA is valid till 2028, but the Petitioner has claimed the service period of the De-NO_x system for 25 years with indicative tariff for the period 2023-34 to 2048-2049. The computation of year-wise fixed capacity charges payable by the beneficiaries shows that it is in descending order, where the impact is greater during the period 2023 to 2028. The Petitioner has not furnished any justifiable reasons for claiming higher fixed capacity charges for the initial years, especially during the tenure of TANGEDCO PPA.

(j) The Petitioner has not submitted the requisite data in support of the claims under 'Change in Law' to ascertain that there is no overlapping in the determination of compensation under 'Change in Law' events between the supply of 100 MW to TANGEDCO and the supply of 170 MW to NPCL or any other distribution companies.

10. In response, the Petitioner vide its rejoinder dated 16.9.2023 has submitted that the power supply from Unit-2 of the generating station to TANGEDCO is as per Section 63 of the Act and, thus, there was no requirement to submit the proposal details as per Regulation 29(1) and Regulation 29(2) of the 2019 Tariff Regulations. 'Change in Law' Notice dated 13.8.2020 was served upon TANGEDCO as per the mandate of TANGEDCO PPA. Moreover, the Petitioner, vide its letters dated 21.12.2022 and 6.2.2023, informed TANGEDCO at every stage of the bidding process and of every development with respect to the cost discovered towards the installation of the De-NO_x

System and also requested TANGEDCO to participate in the opening of the bids and in the discussions with the bidders to optimize the cost towards the installation of the De-NO_x System. TANGEDCO never raised any objections with regard to the 'Change in Law' claim of the Petitioner towards the installation of the De-NO_x system.

11. The Petitioner has submitted that there is no delay in filing the instant petition as there was the COVID-19 pandemic during the year 2021, and also for the initial period of 2022, there were various restrictions in the associated business activities, which caused substantial hurdles/obstacles for finalizing the activities related to bidding and tendering. The petition is within time as the deadline for compliance with the emission standards by installation of De-NO_x technology is 31.12.2023.

12. The Petitioner has also submitted that it does not fall under paragraph 5.1(b) of the MoP letter dated 30.5.2018, as no fund was earmarked for the installation of the FGD/De-NO_x System. In terms of EC dated 4.12.2009, the allocated fund was limited to 275-meter-high Bi-flue stacks with online emission monitoring system, High-Efficiency Electrostatic Precipitators, Dry Ash handling system for fly ash with silos, Ash-pond for unutilized fly ash, Dust extraction and suppression system, Sewage treatment, Green Belt development, closed cycle cooling system with cooling towers etc. and ought not to be considered for measures related to revised ECNs. Further, the cut-off date was 27.2.2013 as per the TANGEDCO PPA, which was approximately 2 years prior to the 2015 EP Rules, as notified on 7.12.2015 and, therefore, the case of the Petitioner is within the scope of 'Change in Law' events.

13. The Petitioner has submitted that the Commission, in its orders dated 11.6.2021

and 6.5.2020 in Petition No. 366/MP/2019: 'DB Power Limited Vs. PTC India Limited & Ors.', and in Petition No. 209/MP/2019: 'Sembcorp Energy India Limited Vs. Southern Power Distribution Company of Telangana Limited & Ors.' has discussed the nature of the 'Change in Law' event and held that revised norms qualify as events under 'Change in Law' in terms of the PPA. The decision of APTEL in Appeal No. 105 of 2011 dated 21.11.2013 titled as 'M/s. JSW Energy Limited Vs. Maharashtra State Electricity Distribution Co. Ltd & Anr.' cannot be applied in the case of the Petitioner as the facts and issues of both cases are different and dissimilar.

14. The Petitioner has further submitted that it has already approached the Uttar Pradesh Electricity Regulatory Commission (UPERC) vide Petition No. 1830 of 2022 for approval of the proportionate liability towards the installation of the De-NO_x System in Unit-2 of its Project, due to be recovered from NPCL for supply of 187 MW power from the same generating unit.

15. In compliance with the Commission's direction vide RoP dated 16.2.2023, the Petitioner vide affidavit dated 13.3.2023 has submitted that apart from TANGEDCO, NPCL has also been impleaded as the beneficiary of its generating station, and in this regard, an amended Memo of Parties has been filed.

16. The Petitioner vide additional affidavit dated 4.5.2023 has submitted the details of the price discovered in the competitive bidding process for the supply of De-NO_x System and Auxiliaries in compliance with the Commission's directions in RoP dated 16.2.2023 and 20.4.2023. It was submitted that based on the discovered price of submitted bids, the order against the Notification Inviting Tender (NIT) has been awarded to GEPIL (L1

Bidder) and the Petitioner is in the process of issuing LoI. The Petitioner also submitted the break-up of the estimated capital cost of the De-NO_x System, details as per Regulation 29 of the 2019 Tariff Regulations (including details of the proposed technology, the scope of work, phasing of expenditure, completion schedule, estimated completion cost and indicative tariff).

17. The Petitioner vide affidavit dated 29.5.2023 has submitted that based on LoI dated 15.5.2023 issued to GEPIL for the supply of De-NO_x System and Auxiliaries, and with further estimations regarding the ancillary costs, the revised estimated capital cost for the of De-NO_x System works out to ₹15.14 crore and the levelized indicative impact on tariff for 25 years on account of the installation of De-NO_x System works out to be ₹0.012/kWh.

Analysis and Decision

18. We have considered the submissions of the Petitioner and TANGEDCO. The instant petition is for approval of ACE towards the installation of the De-NO_x System in Unit-2 of the Petitioner's generating station to meet with the revised ECNs issued by MoEFCC in respect of NO_X. The revised NO_X emission norm as per the MoEFCC Notification dated 19.10.2020 is 450 mg/Nm^3 for thermal power plants installed during the period 1.1.2003 to 31.12.2016. The Unit-2 of the Petitioner's generating station was put into commercial operation on 2.8.2014, and accordingly, the revised norm in the case of Unit-2 of the Petitioner is 450 mg/Nm^3. The Petitioner has submitted that Unit-2 of its generating stations does not meet this norm and it is required to install the De-NO_x System to meet the revised ECNs. Hence, ACE towards the installation of the De-NO_x System is claimed in the instant petition. It is observed that the Petitioner is supplying 100

MW to TANGEDCO, Respondent No.1 and 187 MW to Noida Power Company Limited, Respondent No.2, from Unit-2 of its generating station. The Petitioner has submitted that the Petitioner would approach UPERC w.r.t to the power supplied to NPCL from Unit-2 of its generating station. As stated earlier in this order, NPCL has not filed any reply in the matter, and a reply has been filed only by TANGEDCO. Before we go into the prayers made by the Petitioner, we would consider the concerns raised by TANGEDCO in its reply.

19. TANGEDCO's concerns are basically five-fold, and they are: (a) the Petitioner has not complied with the requirements specified in Regulation 29 of the 2019 Tariff Regulations, (b) there is a delay in implementation of the ECS by the Petitioner, which has led to an increase in the cost of the ECS, (c) the MoEFCC Notification dated 7.12.2015 is not applicable in the case of the Petitioner in view of paragraph 5.1(b) of the MoP's letter dated 30.5.2018, (d) the Petitioner has not submitted the details of the present NO_x emission levels of Unit-2 of its generating station, and (e) TANGEDCO's liability should only be in proportion to the100 MW of power used by it. We deal with these contentions of TANGEDCO in the following paragraphs.

20. As regards the TANGEDCO's contention that the Petitioner has not shared the proposal for installation of ECS containing the details of the proposed technology, scope of work, capital cost as per bidding, indicative impact on the tariff and other relevant information with the Respondents as required under Regulation 29(1) and Regulation 29(2) of the 2019 Tariff Regulations, the Petitioner has submitted that Unit-2 of the Petitioner's generating station is a project under Section 63 of the 2003 Act and, therefore, there is no requirement for the Petitioner to submit the details as per the 2019

Tariff Regulations, which is applicable for the projects under Section 62 of the 2003 Act. The Petitioner has submitted that TANGEDCO has never sought the details under Regulation 29 of the 2019 Tariff Regulations from the Petitioner. owever, the Petitioner has provided these details to the Respondents as per the directions of the Commission in its RoP dated 16.20.2023. We tend to agree with the Petitioner. The Petitioner's project is under Section 63 of the 2003 Act, and the 2019 Tariff Regulations are applicable only in the case of the generating stations under Section 62 of the 2003 Act. Moreover, it is observed that the Petitioner has provided the FR prepared by TCE the details of the estimated capital cost, phasing of expenditure and indicative impact on tariff at the instance of the Commission to the Respondents. We also observe that the Petitioner asked TANGEDCO to participate in the opening of the bids and negotiations to optimize the cost of ECS vide letters dated 21.12.2022 and 6.2.2023. Therefore, we are not able to agree with the contention of TANGEDCO that the Petitioner has not shared the details of the proposal to install the ECS with TANGEDCO.

21. TANGEDCO has contended that there is considerable delay on the part of the Petitioner in the installation of the ECS, which has led to an increase in the cost of the ECS. It is observed that MoEFCC issued the revised ECNs on 7.12.2015, and till August 2021, no action was taken by the Petitioner when TCE submitted the FR. Thereafter, the Petitioner approached CEA for approval of the proposed De-NO_x system on 22.9.2021, which was approved after one year on 15.10.2022. The Notice Inviting Tender (NIT) was issued on 15.10.2022, and a LoI was issued by the Petitioner to the successful bidder, GE Power India Ltd., on 15.5.2023. The Petitioner has submitted that the COVID-19 Pandemic in 2021 and 2022 led to some delay in the issue of LoI. We have perused the

events and activities related to bidding/tendering/financing submitted by the Petitioner. As pointed out by TANGEDCO, there is a delay on the part of the Petitioner in initiating action for the installation of ECS. We are of the view that the Petitioner should have undertaken the activities related to the installation of ECS at a faster pace because of the timelines specified by the MoEFCC. As regards the contention of TANGEDCO that the delay led to an increase in the cost of ECS, it is observed that as per the TCE's FR of August 2021, the total capital cost of the De-NO_x system is ₹17.72 crore and the revised estimated capital cost claimed by the Petitioner for the De-NO_x System as per the affidavit dated 29.5.2023 is ₹15.14 crore. Thus, the capital cost of the De-NO_x system claimed by the Petitioner is less when compared with the capital cost given in the FR of TCE.

22. TANGEDCO has contended that the MoEFCC Notification dated 7.12.2015 is not applicable in the case of the Petitioner in view of paragraph 5.1(b) of the MoP's letter dated 30.5.2018. TANGEDCO has submitted that as per the MoP's letter, thermal power projects, which were mandated to provide for environmental protection measures under the EC issued before the MoEFCC's Notification dated 7.12.2015, cannot claim any relief under the 'Change in Law'. TANGEDCO has also contended that the EC was granted to the Petitioner before the issue of the MoEFCC Notification dated 7.12.2015, i.e. on 4.12.2009, as per which the Petitioner is required to include the cost of the pollution control measures in the project cost at the time of bidding, and the Petitioner cannot claim the same as the ACE under 'Change in Law'. In response, the Petitioner has submitted that it does not fall under paragraph 5.1(b) of the MoP's letter dated 30.5.2018, as the FGD/ De-NO_x System was not specified in the EC and no fund was earmarked for the

installation of the same. The Petitioner has submitted that in terms of EC dated 4.12.2009, the allocated fund was limited to 275-meter-high Bi-flue stacks with an online emission monitoring system, High Efficiency Electrostatic Precipitators, dry ash handling systems for fly ash with silos, ash-ponds for unutilized fly ash, dust extraction and suppression system, sewage treatment, Green Belt development, closed cycle cooling systems with cooling towers, etc. and the same cannot be considered for measures related to revised ECNs. The Petitioner has further submitted that the cut-off date as per the TANGEDCO PPA was 27.2.2013, which was approximately 2 years prior to the issue of revised ECNs by MoEFCC on 7.12.2015, and, therefore, the case of the Petitioner is within the scope of 'Change in Law' events.

23. We have considered the submissions of the Petitioner and TANGEDCO. As per the MoP's letter dated 30.5.2018, the pollution control systems mandated in the EC issued prior to the Notification of MoEFCC Notification dated 7.12.2015 should not be considered a 'Change in Law' event. The relevant portion of the MoP letter dated 30.5.2018 is as follows:

> *"……*
> *5.1 The MOEFCC Notification requiring compliance of Environment (Protection) Amendment Rules, 2015 dated 7th December 2015 is of the nature of Change in Law event except in following cases:*
>
> *c) Power purchase Agreements of such TPPs whose tariff is determined under section 63 of the Electricity Act 2003 having bid deadline on or after 7th December, 2015; or*
> *d) TPPs where such requirement of pollution control system was mandated under the environment clearance of the plant or envisaged otherwise before the notification of amendment rules;"*

24. TANGEDCO's contention is that the EC was issued to the Petitioner by MoEFCC before the issue of revised ECNs, and the EC includes the pollution control system. Therefore, the Petitioner's proposal to install De-NO_x in Unit-2 of its generating station to

meet the revised ECNs cannot be considered a 'Change in Law' event. According to the Petitioner, the EC issued to the Petitioner specified certain pollution control systems, but it does not include the De-NO_x system, which has been proposed by the Petitioner in the instant petition. It is observed that the EC was issued to the Petitioner on 4.12.2009, and according to it, the Petitioner is required to provide funds to meet the expenditure towards the pollution control systems mentioned in the EC. The MoEFCC Notification revising the NO_x emission norms was issued much later, on 7.12.2015. Further, the Petitioner is required to provide funds for certain pollution control systems mentioned in the EC, and it does not include the De-NO_x systems. Therefore, we are of the view that the Petitioner could not have envisaged the installation of De-NO_x systems at the time of availing of the EC in 2009 and, accordingly, could not have provided funds for the same. Therefore, we are not able to agree with TANGEDCO's contention that the De-NO_x proposed by the Petitioner is included in the pollution control systems specified in the EC issued to the Petitioner by the Pollution Control Board. Accordingly, TANGEDCO's contention that, as per the EC, the Petitioner was required to provide funds to install the De-NO_x systems does not hold good, and accordingly, it is rejected.

25. Article 10.4 of the TANGEDCO PPA dated 27.11.2013, read with Addendum No.1 dated 20.12.2013, defines the event of 'Change in Law' and the same is as follows:

> *"**ARTICLE 10: CHANGE IN LAW***
> ***10.1 Definitions***
> *In this Article 10, the following terms shall have the following meanings:*
> *10.1.1 "Change in Law" means the occurrence of any of the following events after the date, which is seven (7) days prior to the Bid Deadline resulting into any additional recurring/ non-recurring expenditure by the Seller or any income to the Seller:*
> - *the enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law;*

- *a change in the interpretation or application of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law, or any Competent Court of Law;*
- *the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;*
- *a change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits; except due to any default of the Seller;*
- *any change in tax or introduction of any tax made applicable for supply of power by the Seller as per the terms of this Agreement.*

but shall not include (i) any change in any withholding tax on income or dividends distributed to the shareholders of the Seller, or (ii) change in respect of UI Charges or frequency intervals by an Appropriate Commission or (iii) any change on account of regulatory measures by the Appropriate Commission including calculation of Availability.

10.2 Application and Principles for computing impact of Change in Law

10.2.1 While determining the consequences of Change in Law under Article 10, the Parties shall have due regard to the principle that the purpose of compensating the Party affected by such Change in Law, it 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

…

10.3.2 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 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.

10.4 Notification of Change in Law

10.4.1 If the Seller is affected by a Change in Law in accordance with Article 10.1 and the Seller wishes to claim relief for such a Change in Law under Article 10, it shall give notice to the Procurer of such Change in Law as soon as reasonably practicable after becoming aware of the same or should reasonably have known

of the Change in Law.

10.4.2 Notwithstanding Article 10.4.1, the Seller shall be obliged to serve a notice to the Procurer under this Article 10.4.2, even if it is beneficially affected by a Change in Law. Without prejudice to the factor of materiality or other provisions contained in this Agreement, the Obligation to inform the Procurer contained herein shall be material.
Provided that in case the Seller has not provided such notice, the Procurer shall have the right to issue such notice to the Seller.

10.4.3 Any notice served pursuant to this Article 10.4.2 shall provide, amongst other things, precise details of:
(a) Change in Law; and
(b) the effects on the Seller"

26. According to Article 10.1.1 of the PPA between the Petitioner and TANGEDCO, the MoEFCC Notification dated 7.12.2015 revising ECNs and requiring the Petitioner to comply with the same is a 'Change in Law' event. Under Article 10.4 of the PPA, the Petitioner is required to give notice about the occurrence of 'Change in Law' events as soon as reasonably practicable after being aware of such events. The Petitioner had given a 'Change in Law' notice to TANGEDCO on 13.8.2020 and apprised TANGEDCO vide letters dated 21.12.2022 and 6.2.2023. As per Article 10.4 of the TANGEDCO PPA, the Petitioner and TANGEDCO have agreed to the compensation to be determined by the Commission and to restitute the affected party to the same economic position as if the 'Change in Law' event had not occurred. The Commission, vide order dated 20.7.2018 in Petition No. 98/MP/2017 (NTPC Limited v. UPPCL and Others), has already settled that the amendment to emission norms a 'Change in Law' event and subsequently held that ACE due to a 'Change in Law' or compliance with any existing law is allowable and, same shall be admissible after due prudence check.

27. Implementation of ECS to meet the revised emission standards results in an increase in cost, *inter alia*, on account of additional capital expenditure, additional O&M

Expenses, Interest on Working Capital and consumption of reagents. Further, it results in a decrease in revenue on account of additional auxiliary energy consumption as the net saleable energy available for selling to the procurers decreases. In keeping with the principle laid down in Article 10 of the TANGEDCO PPA of restitution, restoring the Petitioner to the same economic position as if no 'Change in Law' had occurred, the MoEFCC Notifications dated 7.12.2015, 28.6.2018, 19.10.2020 and 31.3.2021qualifies as the 'Change in Law' event in the case of Unit-2 of the Petitioner's generating station.

28. As regards TANGEDCO's contention that the Petitioner has not submitted the details of the present NO_x emission levels of Unit-2 of its generating station, The Petitioner has submitted that the De-NO_x system recommended by TCE in its FR is based on the analysis of past data. The Petitioner has submitted that there is no requirement under law, and further, there was no occasion for the Petitioner to submit such information. We have considered the submissions of the Petitioner and TANGEDCO. The necessity for the installation of a De-NO_x system can be assessed only on the basis of the existing NO_x emission levels. Therefore, we are of the view that the Petitioner should have submitted the present NO_x emission levels. We are not able to agree with the Petitioner's contention that there is no requirement to submit the present emission levels of NO_x from Unit-2 of the Petitioner's generating station. Normally, we would not have approved the Petitioner's proposal to install the De-NO_x system to meet the revised ECNs in respect of NO_x. However, as a special case, taking into consideration the timelines specified by the MoEFCC for implementation of ECS, we provisionally approve the Petitioner's proposal to install the De-NO_x system in Unit-2 of the Petitioner's generating station, and it is subject to the Petitioner submitting the NO_x emission levels from its Unit-

2 for the past three years at the time of claiming the supplementary tariff. We would also like to make it abundantly clear that if the Petitioner does not submit these details or if the NO_x emission levels submitted by the Petitioner are within the revised norms specified by MoEFCC, the provisional approval given herein for the installation of the De-NO_x system shall stand withdrawn automatically.

29. TANGEDCO has contended that the liability of ACE towards the De-NO_x system should only be in proportion to the 100 MW of power used by it. In response, the Petitioner, in its reply, has submitted that the recovery of charges from TANGEDCO will be to the extent of only 100 MW of net contracted capacity. We are of the view that the TANGEDCO liability should be only to extent of 100 MW of net contracted capacity. As the Petitioner has accepted the TANGEDCO's liability would be only to the extent of 100 MW, we feel that there is no necessity for us to dwell on this issue any further.

30. TANGEDCO has further contended that the Petitioner has claimed the service period of the De-NO_x system for 25 years and claimed an indicative tariff for the period from 2023-24 to 2048-49. TANGEDCO's PPA for 25 years ends in 2028, and the fixed charges payable by the beneficiaries are higher during the period from 2023 to 2028 and, thereafter, are decreasing. TANGEDCO has submitted that the Petitioner has not given any justifiable reasons for claiming higher fixed charges for the initial charges.

We are not inclined to go into this contention of TANGEDCO regarding fixed charges in the instant petition, which is for in-principle approval of ACE towards the installation of De-NO_x system in Unit-2 of the Petitioner's generating station. This contention of TANGEDCO will be considered at the time of determination of supplementary fixed charges in a petition that has to be filed by the Petitioner after installation of the De-NO_x

system.

31. We now consider the Petitioner's prayers. The Petitioner has prayed for (a) declaring the MoEFCC Notifications as 'Change in Law' under the PPA with TANGEDCO, (b) granting in-principle approval of the estimated capital cost towards the installation of De-NO_x systems and (c) granting liberty to the Petitioner to approach the Commission with a separate petition for determination of compensation/ supplementary tariff due to installation of De-NO_x system.

32. We have already held that the MoEFCC Notification dated 7.12.2015 qualifies as a 'Change in Law' event as per Article 10 of the TANGEDCO PPA read with MPCB letter dated 1.10.2021. Therefore, we consider the second prayer of the Petitioner prayer for the grant of in-principle approval of the estimated capital cost towards the installation of the De-NO_x system. In this regard, we examine the suitability of the De-NO_x selected by the Petitioner, the bidding process adopted by the Petitioner and the cost break-up of the De-NO_x system.

Selection of suitable ECS

33. The gist of the submissions made by the Petitioner are as follows:

(a) TCE was engaged in August 2021 for the study and identification of technologies available for the NO_x abatement system, which can provide comprehensive optimal solutions to comply with the new NO_x emission limits. The recommendations made by TCE in its FR are as follows:

a. Modification of the existing burner.

b. Supply of less excess air (LEA Method).

c. Adoption of new separated over-firing air to facilitate multi-stage control

of excess air (SOFA).

d. Modification and Automation of Secondary air damper, actuator and control (SADC control).

(b) TCE compared available technologies, which are broadly grouped as Combustion Modification/Process and post Combustion Process/Control. The post Combustion Process/Control includes sophisticated and high-cost technologies like the Selective Catalytic Reduction (SCR) System and Selective Non-catalytic Reduction (SNCR) System, which generally involve the use of a reagent, the combustion controls reduce the level of NO_x emissions by altering or modifying the firing conditions under which combustion is achieved and is the most cost-effective option available for NO_x abatement. As per TCE's FR, at part load operating conditions, even after operational optimization, the values of the NO_x emissions cannot be contained within the stipulated limit of 450 mg/Nm^3 at 6% Oxygen, dry basis.

(c) CEA's Thermal Project Renovation & Modernization (TPRM) division, in its Notification dated 22.6.2021 on 'Flexible Thermal Generation', has proposed that the Indian thermal power plants in the category of 200-600 MW shall operate at 40-45% load for integration of high influx of renewable power generations. In line with the above Notification, the design of the primary NO_x abatement system is kept covering the operating range of 40% to 100% TMCR. Accordingly, in consultation and approval of the Boiler OEM, existing system improvement will be carried out with the following system modification:

a. Modification of the existing burner for Supply of less excess air (LEA Method).

b. Adoption of new separated over-firing air to facilitate multi-stage control of excess air (SOFA).

c. Modification and Automation of existing Secondary air damper, actuator and control (SADC control).

(d) As per TCE, the technology groups for commercial evaluation, based on factors like operating load conditions, operating time at various loads, and the efficiency of NO_x control in respect of 450 mg/Nm^3 emission norms, are as follows:

a. Combustion Modification/Process Control
   - Low NO_x Burners (LNB)
   - Over Fire Air (OFA)
   - Low Excess Air Firing

b. Post Combustion Control
   - Selective Catalytic Reduction (SCR)
   - Selective Non-Catalytic Reduction (SNCR)
   - Hybrid SCR-SNCR

(e) The qualitative comparison of NO_x abatement technology group are as follows:

Types	Description	% Reduction Efficiency
1. Combustion modification		
Low-NOx Burners (LNB)	These are designed to achieve better air and fuel mixture, which leads to staged combustion process in the burner itself as a secondary and tertiary air. This mainly reduces the available air during primary combustion of coal which reduces the fuel NOx	40-45%**
Over Fire Air (OFA)	This process air is staged. Usual range would be 70% through Low NOx burners and 30% through over fire air ports	
Low Excess Air Firing	Regulating the quantity of excess combustion air to create a reducing environment to aid in N_2 formation and limit oxygen available	
2. Post combustion process		
Selective Catalytic Reduction	Ammonia (NH_3) is injected into the flue gas before passes through the catalytic bed	75-85% *
Selective Non Catalytic Reduction	This technology is usually applied for CFBC boilers since the flue gas temperature would be in the range of 850 to 1000°C.	30-60% *
Hybrid SCR-SNCR	Modified SNCR with furnace reagent injection and induct catalyst for enhanced efficiency, reagent utilization and restricted ammonia slip	50-75% **

(Source: US EPA 2005 ** Source: Technology Providers)*

(f) The proposal for the adoption of Combustion Modification/ Process for NO_x abatement was made to CEA for its approval vide letter No. DIL/VP/CEA/397 dated 3.9.2021. In response, CEA vide letter dated 22.9.2021 validated the fact that the NO_x limit of 450 mg/Nm^3 could be achieved by implementing only CM systems in thermal generating units. Accordingly, CEA approved the technology to be adopted for NO_x abatement and further advised the Petitioner to approach the Appropriate Commission for further course of action.

(g) Modifications for reduction of primary/uncontrolled NO_x emissions are indicative in nature and its specific techniques/methods may vary for different Boiler

OEMs/ Technology providers, operating characteristics and boiler designs. Moreover, the exact requirement and extent of modifications shall be backed/validated by various associated studies/ analyses (related to computational fluid dynamics, furnace heat zone and temperature profile characteristics, combustion efficiency and performance assessments, etc. as applicable), which needs to be carried out by the OEMs/Technology providers. These aspects shall be further discussed/ reviewed during detail engineering for finalizing and implementing the primary NO_x reduction system modifications.

(h) As per the estimate of TCE in its FR, the entire process of installation and execution of the De-NO_x System in the existing Boiler at Unit-2 of the generating station would take a minimum 9 to 12 months from the date of placement of order, subject to the following:

a. The time may vary between Boiler OEM and other De-NO_x technology providers considering the access to existing design input, data and documents; and
b. The unit downtime required for duct-inter-connection and modification of the boiler and its accessories of the existing unit would take about 75-90 days.

34. TANGEDCO has submitted that the Petitioner was well aware that it had to comply with the SO_2 emission norms, prescribed from time to time , and to monitor the same. In this regard, EC further specifically stipulates the condition to install a bi-flue stack of 275m height with continuous online monitoring equipment to monitor the emission levels of SO_2, NO_x and PM. The Petitioner has not clarified the measures taken by them to ascertain that the ECS De-NO_x System is functional 24x7.

35. In response, the Petitioner has reiterated that in EC granted by MoEFCC, no fund was earmarked for installation of FGD/ De-NO_x System, as prior to the 2015 EP Rules, there were no norms for mandatory installation of De-NO_x/ FGD Systems. Further, as per the EC granted to the Petitioner, the funds are to be allocated to 275-meter-high Bi-flue stacks with online emission monitoring systems, High Efficiency Electrostatic Precipitators, Dry Ash handling system for fly ash with silos, Ash-pond for unutilized fly ash, Dust extraction and suppression system, Sewage treatment, Green Belt development, closed cycle cooling system with cooling towers etc. and not to meet the revised ECNs.

36. We have considered the submission of the Petitioner and TANGEDCO. As per the MoEFCC Notification dated 7.12.2015, the NOx emission norm for Unit-2 of the Petitioner's generating station was 300mg/Nm^3. The MoEFCC issued the 2020 EP Rules vide Notification dated 19.10.2020, revising the emission norm for NO_x from 300 mg/Nm^3 to 450 mg/Nm^3. Accordingly, the revised NO_x emission norm for Unit-2 of the Petitioner's generating station is 450 mg/Nm^3. The Petitioner has submitted that this norm will be met with the installation of the De-NO_x system proposed by the Petitioner. It is observed that the Petitioner's proposal for adoption of Combustion Modification/ Process for NO_x abatement has already been approved by CEA for meeting the MoEFFC's norm of 450 mg/Nm^3. In view of the above, we approve the 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 dampers and actuators and Low Excess Air Firing for 300 MW Unit-2 of the Petitioner's generating station.

Approval and the Bidding Process

37. In compliance with the Commission's directions in RoP dated 16.2.2023 and 20.4.2023, the Petitioner vide an additional affidavit dated 4.5.2023 has submitted the details of the bidding process for the supply of De-NO_x System and Auxiliaries. The Petitioner has submitted that pursuant to CEA advisory, the Petitioner has carried out the tendering and bidding process for installation of the De-NO_x System and Auxiliaries contract vide Tender No. DIL-NOx-SUPPLY-01 dated 15.10.2022 under the International Competitive Bidding (ICB) mode. The NIT was published in the metro editions of Financial Express on 15.10.2022 as well as on the website of Global Tender. As per NIT, bids were invited in two parts, viz. Techno-commercial bids and Price bids. Three bidders, namely, Ge Power India Limited (GEPIL), L&T MHI Power Boilers Private Limited (LMB) and Shanghai Electric Group Company Limited (SEC) participated in the bidding process. Based on the discovered price of the submitted bids, the order against NIT was awarded to GEPIL (L1 Bidder). Accordingly, LoI was granted to GE Power India Limited (GEPIL) on 15.5.2023 for supply of De-NO_x System and auxiliaries. The Petitioner has further submitted that initially the total capital cost towards the proposed De-NO_x System was estimated to ₹17.72 crore as per TCE's FR. Subsequent to ICB, the revised estimated capital cost was worked out to ₹15.14 crore, including Initial Spares, Taxes & Duties, Insurance, IEDC, IDC and Financing Charges.

38. We have considered the submission of the Petitioner. The Petitioner has submitted that the entire process from the identification of the suitable technology to the NIT to the selection of the bidders have been done in a fair and transparent manner. The Petitioner has submitted that GEPIL has been awarded the tender for supply/ installation of De-NO_x

System and Auxiliaries, and GEPIL's bids are techno-commercially well qualified, as per the provisions and guidelines mentioned in NIT. In view of the above, we hold that the Petitioner has carried out the bidding process in a fair and transparent manner.

Cost Break-up of the De-NO_x System

39. The Petitioner had initially claimed ₹15.89 crore vide affidavit dated 4.5.2023, as the estimated capital cost for installation of the De-NO_x System. The Petitioner vide affidavit dated 29.5.2023 has submitted that the revised estimated capital cost for installation of the De-NO_x System works out to ₹15.14 which includes hard cost of ₹5.88 crore (equipment & material supply and initial spares) and soft cost of ₹9.27 crore (Taxes & Duties, insurance, IDC, IEDC and financing charges). The break-up of the revised estimated capital cost submitted by the Petitioner is as follows:

DIL Unit 2 - Break-up of Estimated Capital Cost of proposed De-NOx System			
Particulars	**Annotation**	**Unit 2**	
		₹ Crores	**₹ Crores/MW**
Hard Capital Cost			
Equipment & Material supply	a	5.65	0.019
Initial Spares (@4% of Plant & Machinery Cost as per Bid Evaluation Report)	b=4%*a	0.23	0.001
Total Hard Capital Cost of De-NOx System	**c=sum(a:b)**	**5.88**	**0.020**
Soft Capital Cost			
Cost for Dismantling, Removal, Installation, Erection, Commissioning, PG Test and Reliability Run Test	d	5.10	0.017
Engineering and Project Management cost	e	0.58	0.002
Contingency Reserve	f	0.58	0.002
Total Base Capital Cost of De-NOx System	**g=sum(c,d,e,f)**	**12.14**	**0.040**
Taxes & Duties (GST @18% of Total Hard Capital Cost and Service Cost)	h=(c+d+e)*18%	2.08	0.007
Insurance (@1% of Total Base Capital Cost)	i=g*1%	0.12	0.000
IEDC (Pre-Operative Expenses, Overheads and Consultancy Charges) (@2% of Total Base Capital Cost)	j=g*2%	0.24	0.001
IDC (@Rate of Interest 12.00%)	k	0.40	0.001
Financing Charges (@1.5% of Normative Loan at 70% of Total Capital Cost)	l = n*70%*1.5%	0.16	0.001
Total Soft Capital Cost of De-NOx System	**m = sum(d,e,f,h:l)**	**9.27**	**0.031**
Total Capital Cost of De-NOx System	**n = c+m**	**15.14**	**0.050**

40. We have considered the submissions of the Petitioner on the cost of ECS claimed by the Petitioner. The Petitioner has claimed the estimated capital cost (based on the price discovered through open ICB) of ₹15.14 crore, including Initial Spares, Taxes & Duties, Insurance, IEDC, IDC and Financing Charges. The Petitioner has also submitted that the revised estimated capital cost is lower than the earlier estimates. We grant provisional in-principle approval of the Base Capital Cost of De-NO_x of ₹12.14 crore towards the installation of the

41. De-NO_x System claimed by the Petitioner in order to meet revised NO_X emission norms, subject to the Petitioner submitting the actual NOx emission levels from Unit-2 of the generating station during the past three years as stated in paragraph 28 above. The taxes & duties, insurance, IDC, IEDC and financing charges claimed by the Petitioner towards installation of the De-NO_x system, may be claimed by the Petitioner in the petition for approval of compensation/ supplementary tariff after the installation of the De-NO_x system for consideration of the Commission.

Liberty to approach the Commission

42. The third prayer of the Petitioner is to grant liberty to approach the Commission with a separate petition in due course of time for determination of compensation/ supplementary tariff on account of the 'Change in Law' event and recovery thereto and raise invoice based on the actual capital cost incurred due to installation of the De-NO_x System, to the extent of supply of 100 MW Net Contracted Capacity to TANGEDCO.

43. We have considered the submissions of the Petitioner. Any claim made by the Petitioner in future after installation of the De-NO_x System will be considered as per the

applicable laws.

44. This order disposes of Petition No. 261/MP/2022 in terms of the above discussions and findings.

sd/-	**sd/-**	**sd/-**	**sd/-**
(P. K. Singh)	**(Arun Goyal)**	**(I. S. Jha)**	**(Jishnu Barua)**
Member	**Member**	**Member**	**Chairperson**