केन्द्रीय विद्युत विनियामक आयोग
Central Electricity Regulatory Commission

# Diary Acknowledgement

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|---|---|---|---|
| **Reference No.** | 228/2025 | **Reference Date** | 12/04/2025 |
| **Diary No.** | 201/2025 | **Diary Date** | Apr 15, 2025, 12:07 PM |
| **Petition Type** | Generation Tariff | **Region** | East |
| **Subject Keyword** | | | |
| **Subject** | Petition under Section 62 and 79(1)(b) of the Electricity Act, 2003 read with Regulations 29 (4) of the CERC (Terms and Conditions of Tariff) Regulations, 2024 and other relevant provisions and this Hon?ble Commission?s directions in the Order dated 16.12.2022 in Petition no. 606/MP/2020 | | |
| **Status** | Preliminary Scrutiny Before Registration | | |

**Petitioner Details**

| Name | Mobile | Email |
|---|---|---|
| Maithon Power Limited MPL | 8800464445 | pankaj.prakash@tatapower.com |

**Respondent Details**

| S. No. | Name | Mobile | Email |
|---|---|---|---|
| 1 | Tata Power Delhi Distribution Limited 'TPDDL ' | 9971393919 | anurag.bansal@tatapower-ddl.com |
| 2 | DAMODAR VALLEY CORPORATION 'DVC' | 9433727107 | commercial.dvc@dvc.gov.in |
| 3 | West Bengal State Electricity Distribution Company Limited 'WBSEDCL' | 8981131572 | cereg.wbsedcl@gmail.com |
| 4 | Kerala State Electricity Board Limited 'KSEB Ltd.' | 9446008570 | trac@kseb.in |
| 5 | Tata Power Trading Company Limited 'TPTCL' | 9971211438 | tptclmarketing@tatapower.com |

Dear Sir / Madam,

Your petition has been submitted successfully. Kindly refer the above mentioned diary number for future correspondence.

**For CENTRAL ELECTRICITY REGULATORY COMMISSION**

Apr 15, 2025, 12:09 PM

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION, AT NEW DELHI**

**PETITION NO. _____/GT/2025**

**IN THE MATTER OF:** *Petition under Section 62 and 79(1)(b) of the Electricity Act, 2003 read with Regulations 29 (4) of the CERC (Terms and Conditions of Tariff) Regulations, 2024 and other relevant provisions and this Hon'ble Commission's directions in the Order dated 16.12.2022 in Petition no. 606/MP/2020.*

**AND**

**IN THE MATTER OF:**

Maithon Power Limited … Petitioner

***-Versus-***

Tata Power Delhi Distribution Limited & Ors. … Respondents

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**FILED BY:**

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Date: 15.04.2025

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION,**

**AT NEW DELHI**

**PETITION NO. _____/GT/2025**

**IN THE MATTER OF:** *Petition under Section 62 and 79(1)(b) of the Electricity Act, 2003 read with Regulations 29 (4) of the CERC (Terms and Conditions of Tariff) Regulations, 2024 and other relevant provisions and this Hon'ble Commission's directions in the Order dated 16.12.2022 in Petition no. 606/MP/2020.*

**AND**

**IN THE MATTER OF:**

Maithon Power Limited ... Petitioner

***-Versus-***

Tata Power Delhi Distribution Limited & Ors. ... Respondents

**MEMO OF PARTIES**

**IN THE MATTER OF:**

Maithon Power Limited
Through its CFO
Having its registered office at Corporate Center,
34 Sant Tukaram Road, Carnac Bunder, Mumbai,
Maharashtra- 400009 ...Petitioner

Versus

1. Tata Power Delhi Distribution Limited,
   NDPL House, Hudson Lines,
   Kingsway Camp, Delhi-110 009,

2. Damodar Valley Corporation,
   DVC Towers, 1st Floor Commercial, VIP Road,
   Kolkata, West Bengal-700054

3. West Bengal State Electricity Distribution Company Limited,
   Vidyut Bhavan, Block-DJ,
   Sector-II, Salt Lake, Kolkata-700091,
   West Bengal-700091

4. Kerala State Electricity Board Limited
Tariff Regulatory and Affairs Cell,
Vydyuthi Bhavan, KSEB Ltd.,
Thiruvananthapuram, Kerala-695004

5. Tata Power Trading Company Ltd.
B-12/13, Sector 4, 2nd Floor, Noida ,
NOIDA (Gautam Budh Nagar),
Uttar Pradesh – 201301 ...Respondents

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Place: New Delhi
Date: 15.04.2025

MAITHON POWER LIMITED

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION,**

**AT NEW DELHI**

**PETITION NO. _____/GT/2025**

**IN THE MATTER OF:** *Petition for determination of supplementary tariff for ECS under Section 62 and 79(1)(b) of the Electricity Act, 2003 ("Act") read with Regulations 29 (4) of the CERC (Terms and Conditions of Tariff) Regulations, 2024 (2024 Tariff Regulations) and other relevant provisions of the Act and 2024 Tariff Regulations and this Hon'ble Commission's directions in the Order dated 16.12.2022 in Petition no. 606/MP/2020.*

**AND**

**IN THE MATTER OF:**

Maithon Power Limited ...Petitioner

***-Versus-***

Tata Power Delhi Distribution Limited & Ors. ... Respondents

**MOST RESPECTFULLY SHOWETH:**

**A. Executive Summary of the Petition**

**(i) Brief background of the Petitioner**

1. The Petitioner, i.e., Maithon Power Limited ("**MPL**" / "**Petitioner**"), is a Joint Venture between The Tata Power Company Ltd. ("**Tata Power**") and Damodar Valley Corporation ("**DVC**") wherein Tata Power has 74% shareholding and DVC has 26% shareholding of MPL. The Petitioner has set up and operates the Maithon Right Bank Thermal Power Project ("**MRBTPP**"/ "**Maithon Project**"/ "**Project**"), having an Installed Capacity of 1050 MW (2x525MW), located at District Dhanbad in the State of Jharkhand.

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**(ii) Brief background of the Respondent(s)**

2. The Respondents are the beneficiaries of the Project and are distribution licensees within the meaning of Section 2(17) of the Electricity Act, 2003 ("**Act**"), engaged in the business of retail distribution and supply of power within their licensed areas.

**(iii) Background of generating station/unit, transmission line /asset as the case may be.**

3. The Petitioner achieved Date of Commercial Operation (CoD") for Unit 1 of the Project on 01.09.2011 and for Unit 2 of the Project on 24.07.2012. Further, the Petitioner had contracted the entire Installed Capacity of the Project with the following long-term beneficiaries through Power Purchase Agreements ("**PPA**")/Power Sale Agreements ("**PSA**"):

(a) 300 MW with Respondent No. 1, i.e. Tata Power Delhi Distribution Limited ("**TPDDL**") through Respondent No. 5 i.e. Tata Power Trading Company Limited ("**TPTCL**"), vide Tri- Partite PPA dated 10.09.2009.

(b) 150 MW with Respondent No. 2, **"DVC"**, vide PPA dated 28.09.2006 read with Supplementary Agreement dated 24.01.2017.

(c) 300 MW with Respondent No. 3 i.e. West Bengal State Electricity Distribution Company Ltd ("**WBSEDCL**") through TPTCL vide PSA dated 23.04.2008 and Supplementary PSA dated 19.02.2013.

(d) 300 MW with Respondent No. 4 i.e. Kerala State Electricity Board Limited ("**KSEBL**"), vide PPAs dated 30.12.2013 and 29.06.2015.

**(iv) Brief description of important events relevant to the Petition.**

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4. The events leading up to the filing of the present Petition are detailed hereunder:

4.1 On 07.12.2015, the Ministry of Environment, Forest and Climate Change, Government of India ("**MoEF&CC**") has notified the Environment (Protection) Amendment Rules, 2015 ("**MoEF&CC Notification dated 07.12.2015**") to mandatorily require all thermal power plants installed and to be installed, like the Petitioner's Projects, to comply with the revised norms as specified in the notification. A copy of the MoEF&CC Notification dated 07.12.2015 is annexed herewith and marked as **ANNEXURE P/1**.

4.2 Accordingly, the Petitioner had approached the Hon'ble Commission for seeking in-principle approval of the expenditures proposed to be incurred in order to comply with the $SO_2$ and NOx norms prescribed under Amendment Rules *vide* Petition No. 72/MP/2016 under Regulation 14(3)(ii) read with Regulations 3(9) and 12(2) of the CERC (Terms & Condition for Determination of Tariff) Regulations, 2014 ("**2014 Tariff Regulations**").

4.3 By way of the said Petition No. 72/MP/2016, the Petitioner had sought in-principle approval for the proposed Capital Cost (including IDC) of the Abstract Schemes pertaining to installation of Flue Gas De-Sulphurization Plant for reduction of $SO_2$ and Installation of Selective Catalytic Reduction System for reduction of NOx in order to comply with the provisions of the Amendment Rules considering the same under Change in Law as per the provisions of the 2014 Tariff Regulations along with the indicative Incremental Tariff.

4.4 On 20.03.2017, this Hon'ble Commission passed its Order thereby disposing of Petition no. 72/MP/2016 with the directions to the Petitioner to approach:

(a) Central Electricity Authority ("**CEA**") with regard to the specific optimum technology, associated cost and major issues to be faced in installation of revised environmental norms; and

(b) MoEFCC for phasing the implementation of different environmental measures.

4.5 In the Order dated 20.03.2017, this Hon'ble Commission also granted liberty to the Petitioner to approach this Hon'ble Commission post obtaining approval from CEA and MoEFCC on the cost factors including technology and finalization of implementation schedule. The relevant excerpt of the Order dated 20.03.2017 is extracted herein below for ease of reference:

> *"10. Since, the 2014 Tariff Regulations do not provide for the grant of in-principle approval for the capital expenditure, the prayer of the petitioner for in-principle approval of the Abstract scheme of capital expenditure by relaxing the provisions of the tariff regulations through invoking Regulation 54 of 2014 Tariff Regulations, is not maintainable. In our view, since, the implementation of new norms in the existing and under construction thermal generating stations would require modification of their existing system and installation of new systems such as Retro-fitting of additional fields in ESP/replacement of ESP, etc. to meet Suspended Particulate Matter norms, installation of FGD system to control $SO_2$ and Selective Catalytic Reduction (SCR) systems for DeNOx,* ***the petitioner is directed to approach the Central Electricity Authority to decide specific optimum technology, associated cost and major issues to be faced in installation of different system like SCR, etc. The petitioner is also directed to take up the matter with the Ministry of Environment and Forest for phasing of the implementation of the different environmental measures. Accordingly, the petitioner is granted liberty to file appropriate petition at an***

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***appropriate stage based on approval of CEA and direction of MoEF which shall be dealt with in accordance with law."***

***[Emphasis Supplied]***

A copy of the Order dated 20.03.2017 issued by this Hon'ble Commission in Petition no. 72/MP/2016 is annexed herewith and marked as **ANNEXURE P/2**.

4.6 Pursuant to the directions in the Order dated 20.03.2017, in the interest of expediting the implementation of the new environmental norms, it was thought prudent to separate the process of approval of $SO_2$ abatement technology from NOx abatement technology. In this pursuit, approval was sought from CEA for appropriate FGD technology separately and bids were invited to finalise the Supply packages. This culminated into filing of Petition No. 152/MP/2019 with the Hon'ble Commission for approval of capital cost of FGD separately.

4.7 On 11.11.2019, this Hon'ble Commission passed its Order in Petition No. 152/MP/2019, approving the technology and according in-principle approval for the installation of Emission Control Systems ("**ECS**") by the Petitioner to comply with the revised environmental norms set by the MoEFCC's Notification dated 07.12.2015. Furthermore, the Hon'ble Commission permitted the Petitioner to approach it at the time of filing the petition for determination of tariff after the commissioning of the ECS. At that stage, the Petitioner was granted liberty to present the actual additional capital expenditure incurred for the installation of the ECS. A copy of the Order dated 11.11.2019 passed by this Hon'ble Commission in

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Petition No. 152/MP/2019 is annexed herewith and marked as **ANNEXURE P/3**.

4.8 Simultaneously, on 05.11.2018, for meeting the new environmental norms for NOx emission, the Petitioner submitted feasibility study for proposed NOx abatement system to CEA. Further, on 30.04.2020, the Petitioner submitted the revised feasibility report to CEA, based on discussions with various vendors and due diligence exercise carried out by the Petitioner during this period.

4.9 CEA, *vide* its letter dated 19.06.2020, accorded its approval to go ahead with the NOx Abatement System for meeting the norm of 450 mg/ $Nm^3$ in line with the direction of the Hon'ble Supreme Court.

4.10 In light of the above, the Petitioner filed Petition No. 606/MP/2020 for approval of expenditures related to De-NOx system for Petitioner's Generating Station under the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2019 ("**2019 Tariff Regulations**"), making the following prayers before the Hon'ble Commission:

> *"a. Admit the present petition;*
> *b. Grant in-principle approval to the Petitioner to incur the expenditures (including Capex and Opex) (depending upon the finalization of the emission parameter) as detailed under this Petition for meeting the revised emission norms in respect of NOx;*
> *c. Approve the estimated capital cost of Rs 198.37 Crores for meeting the NOx norm of 300 mg/$Nm^3$ subject to true up / actual cost incurred or alternatively, grant liberty to the Petitioner to approach this Hon'ble Commission to file separate Petition with firmed up cost in case 300 mg/$Nm^3$ norm is retained by the MoEF&CC;*
> *d. Approve the estimated total capital cost of Rs. 51.47 crores for meeting the NOx norm of 450 mg/$Nm^3$ (subject to true-up based on prudency check);*
> *e. Approve the parameters proposed in the present petition in relation to estimated increase in O&M Expenses, Operating Norms like Auxiliary Power Consumption and SHR, spares, water charges, landed*

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*cost of reagents (solid urea prills), cost etc. with corresponding increase in Capacity Charges and ECR as detail above;*

*f. Exclude the period of shutdown (required for installation of NOx abatement system) for the purposes of calculating the Availability of the Project to the extent it cannot be not synchronized with annual shutdown or allow opportunity cost to this extent and ensure full recovery of shortfall in AFC due to such shutdown;*

*g. Allow the prayer of the Petitioner not to consider the increased ECR for the Petitioner's Project on account of DeNOx installation for preparation of stack of merit order dispatch till all participating generators comply with the revised emission norms but allow increased ECR to be recovered in billing;*

*h. Allow the Petitioner to (i) seek requisite modifications in the granted LTA on account of reduction in the Net Capacity of Project (ii) Modification in formulae for Availability, ECR and PLF due to increased Auxiliary Power Consumption due to proposed ECS installation;*

*i. Grant leave to the Petitioner to approach this Hon'ble Commission for determination of Supplementary tariff for De-NOx System at appropriate stage;*

*j. Grant liberty to the Petitioner to approach this Hon'ble Commission by way of separate petition(s) for remaining ECS, if any, which is not being proposed presently, but may be required to be installed in order to comply with the revised emission norms;*

*k. Condone any inadvertent omissions/errors/rounding-off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required in future;"*

4.11 Subsequently, on 05.09.2022, MoEFCC's issued another notification wherein the standards for emission of NOx were revised from 300 mg/$Nm^3$ to 450 mg/$Nm^3$ for thermal power plants installed after 01.01.2003 and up to 31.12.2016. A copy of MoEFCC's Notification dated 05.09.2022 is annexed herewith as **ANNEXURE P/4.**

4.12 On 16.12.2022, this Hon'ble Commission passed its Order in Petition No. 606/MP/2020 and held as follows:

*"33. As regards O&M charges, the Petitioner has submitted that this technology may necessitate higher SHR i.e. around 22 kCal/ kWh and as per the estimations, considering the balance useful life of the units, the additional tariff on account of implementation of ECS for abatement NOx upto 450 mg/ $Nm^3$ is of ₹0.06/kWh (₹0.03/kWh in Per Unit Capacity Charges and ₹0.03/kWh in ECR). However, it is*

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*observed that these claims are based on the preliminary estimations of the Petitioner and actual impact can be assessed only after actual implementation of the NOx system for the generating station and other similar size of units. As per Regulation 29(4) of the 2019 Tariff Regulations, after completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff. Accordingly, the prayers of the Petitioner for the grant of additional APC, Gross Station Heat Rate, additional water charges, spares, additional O&M Expenses, landed cost of reagents and deemed availability on account of shutdown, etc. are not considered in the instant order, as the instant petition is for in-principle approval for implementation of 'In Combustion Technology' and the same would arise only after the ECS system is installed and becomes operational. Accordingly, we would consider them in petition to be filed by the Petitioner under Regulation 29(4) of the 2019 Tariff Regulations, after the installation of NOx control system. Further, the Commission has introduced a separate tariff stream for ECS by amending the 2019 Tariff Regulations vide the 2020 Amendment Regulations. Accordingly, the Petitioner's claim towards grant of additional APC, additional water consumption and additional O&M Expenses, etc. shall be dealt as per the amended 2019 Tariff Regulations.*

*34. The Petitioner has approached the Commission for in-principle approval of the capital cost for implementation of NOx control system. The Petitioner has claimed estimated price of ₹51.46 crore for implementation of the 'In Combustion Technology' in its generating station (2 x 525 MW), which includes main package (including Furnace CFD analysis and LOI analyser) of ₹33.08 crore, DCS augmentation system (₹2 crore), Mercury Analyser (₹2 crore), GST @ 18 % (₹7.14 crore), IDC and financial charges (₹2.31 crore) and Contingency (₹2.34 crore). The CEA has specified the suitable technology and the indicative capital cost of the Wet Limestone Based FGD for reduction of $SO_2$ emissions. However, no such indicative capital cost is available in the case of NOx control system. The Commission vide combined order dated 28.4.2021 in Petition No.335/MP/2020 & Others, approved the hard cost for implementation of the Combustion Modification System for NOx control system in case Vindyachal Super Thermal Power Station, Korba Super Thermal Power Station, Mauda Power Thermal Power Station and Sipat Super Thermal Power Station. Further, the Commission vide order dated 28.9.2021 in Petition No. 597/MP/2020 in case of NTPC SAIL and order dated 7.5.2022 in Petition No.393/MP/2019 in the case of Aravali Power Company Private Limited had accorded in-principle approval of the hard cost towards implementation of NOx control system discovered through bidding.*

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*The details of the in-principle approvals granted by the Commission for installation of the NOx control system is given in the table below. In the instant case, the Petitioner has indicated hard cost of ₹37.08 crore (Furnace CFD analysis and LOI analyzer of ₹33.08 crore, DCS augmentation system of ₹2 crore and Mercury Analyser of ₹2 crore) for implementation of NOx control system. It is observed from the table below that the hard cost claimed by the Petitioner in the instant case is much higher than the hard cost approved in the case of NTPC, NTPC SAIL and Aravali Power Company Private Limited*

| ***Petition No. & date of order*** | ***Petitioner*** | ***Generating Station /Capacity (MW)*** | ***Date of IFB & NoA*** | ***Cost Approved for Combustion Modification System (₹ in crore)*** |
|---|---|---|---|---|
| *335/MP/2020 & Ors 28.4.2021* | *NTPC* | *(i) VSTPS-III (2x500 MW)* | *IFB:31.7.2017 NOA:18.9.2018* | *17.74* |
| | | *ii) VSTPS-IV (2x500 MW)* | *IFB:31.7.2017 NOA:18.9.2018* | *17.74* |
| | | *(iii) KSTPS-III (500 MW)* | *IFB 28.9.2018 NOA:22.8.2020* | *8.76* |
| | | *(iv) MSTPS-I (2x500 MW)* | *IFB:31.7.2017 NOA:18.9.2018* | *18.28* |
| | | *(v) SSTPS-II (2X500 MW)* | *IFB:24.4.2020 NOA: -NA-* | *12.92* |
| *Petition No. 597/MP/2020 28.9.2021* | *NTPC SAIL* | *2x250 MW* | *IFB:31.8.2018 NoA:26.8.2019* | *14.00* |
| *Petition No. 393/MP/2019 7.5.2022* | *Aravali Power Company Private Limited,* | *3x500 MW* | *IFB:24.11.2018 NOA:29.4.2019* | *16.94* |
| *Petition No. 606MP/2020* | *MPL* | *2x525 MW* | | *Claimed 37.08* |

*35. As the hard cost of NOx control system claimed by the Petitioner is much higher, we are not inclined to approve the same at this stage. The Petitioner is directed to adopt prudent methods of transparent*

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*competitive bidding and arrive at more economical and reasonable capital/ hard cost of the NOx control system in the interest of beneficiaries and the consumers. However, we accord "in-principle" approval for implementation of 'In Combustion Technology' in its generating station (2x 525 MW) and the Petitioner is granted liberty to approach the Commission after of the implementation of 'In Combustion Technology' for further consideration in accordance with Regulation 29(4) of the 2019 Tariff Regulations. Further, the Petitioner is directed to proceed for implementation NOx abatement system in line with the timelines issued by the MoEF&CC from the time to time, in consultation with the beneficiaries.*

*36. The Petitioner has also prayed for modification of the granted LTA on account of reduction in the Net Capacity of Project due to proposed ECS installation. The Petitioner has made similar prayer in Petition No.152/MP/2019. In this regard, the Commission in order dated 11.11.2019 in Petition No.152/MP/2019 has already held that the Petitioner has to invoke the provision of LTA and the 2009 Regulations for any reduction of LTA in accordance with law. As such, we are not inclined to dwell on this issue in this order. The relevant portion of the order dated 11.11.2019 is as follows:*

> *"41. The Petitioner in the instant petition has prayed for requisite modification in the LTA granted on account of reduction in the Net Capacity of the generating station due to increase in Auxiliary Consumption in regard to FGD installation. It is observed that the reduction of LTA capacity is governed as per their provision of LTA Agreement and the CERC (Connectivity, Long term Access and Medium Term Open Access) Regulations, 2009 and subsequent amendment thereof. The Petitioner has to invoke the provision of LTA and connectivity regulations for any reduction of LTA in accordance with Law....."*

*37. As regards the Petitioner's prayer to not consider the increased ECR on account of installation of De-Nox installation for the purpose of preparation of stack of merit order dispatch, the Commission in order dated 11.11.2019 in Petition No.152/MP/2019 filed by the Petitioner has already observed as under. Therefore, we do not find any reason to further dwell on this issue in this order.*

> *"39. The dispatch of the generating station depends on the requisition by the beneficiaries of such generating station. All the beneficiaries may not be purchasing the electricity from same generating stations. The merit order for dispatch is worked out by each beneficiary based on the principle of marginal cost. The marginal cost of each beneficiary is different and therefore, the merit order for dispatch will also be different. In this context, the Ministry of Power, on 30.7.2019, issued direction u/s 107 of the Act, to address this issue as under:*

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> *"3. The Phasing of the implementation of the new environmental norms has been reviewed. Accordingly, it is directed that the impact of operating costs incurred in the implementation of new Environmental Norms shall not be considered for Merit Order Despatch of Coal Based Thermal Power Stations till 31.12.2022. For this purpose, CERC shall advise a methodology of supplementary tariff determination separately from normal tariff so that installation of FGD/other ECS has no bearing on the merit order dispatch till 31.12.2022."*
>
> *40. As per Clause (2) of the Regulation 14 of the 2019 Tariff Regulations, the Commission has already specified the regulatory framework for determination of supplementary tariff inter-alia provides supplementary capacity charges and supplementary energy charges. This regulation is effective for 2019-24 tariff period. The Commission will determine this supplementary tariff on submission of application by the petitioner after installation of FGD. As such, state/beneficiaries may decide merit order dispatch while scheduling the plants. Accordingly, prayer (g) of the petitioner is disposed in terms of above."*

A copy of the Order dated 16.12.2022 passed by the Hon'ble Commission in Petition No. 606/MP/2020 is annexed herewith and marked as **ANNEXURE P/5**.

4.13 The Petitioner humbly submits that the implementation NOx abatement system ("***De-NOx Project***") has been successfully completed on 13.01.2025 for Unit-2 of its generating station in order to comply with the NOx norms prescribed MoEFCC, *vide* its notification dated 07.12.2015 while issuing the Environment (Protection) Amendment Rules, 2015. As such, Date of Operation of the De-NOx Project for Unit-2 ("**Unit-2 ODe**") is 13.01.2025. Further, the De-NOx Project in respect of Unit-1 is expected to be completed in the forthcoming shutdown around December, 2025. Accordingly, the projected Date of Operation **("Unit-1 ODe")** of De-NOx Project for Unit-1 is considered as 31.12.2025. The Petitioner is,

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accordingly, filing this Petition for determination of supplementary tariff on account of capital expenditure, incurred and projected, for such implementation for both the units of the Generating Station. Duly filled Tariff Formats in respect of the determination of the supplementary tariff is annexed herewith and marked as **ANNEXURE P/6.** The details of FGD System shall be updated once it achieves its ODe and as soon as actual expenditure details are certified by the Auditor.

4.14 The Management Certificate, in terms of regulation 3 (18) of 2024 tariff Regulations, certifying that all applicable technical and environmental standards have been met as on **"Unit-2 ODe"** i.e., 13.01.2025, is annexed herewith and marked as **ANNEXURE P/7.**

**(v) Summary of Claims**

5. Based on the submissions made in the present Petition, the Petitioner has computed the Annual Fixed Charges on pro-rata basis. The Hon'ble Commission is requested to allow the same as shown below:

*Rs. lakh*

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | **Summary of Tariff** | | | | | | |
| 1.1 | Depreciation | 13.33 | 57.43 | 39.87 | 159.91 | 159.91 | 159.91 |
| 1.2 | Interest on Loan | 16.07 | 66.91 | 46.38 | 176.89 | 162.67 | 147.57 |
| 1.3 | Return of Equity | 11.15 | 49.42 | 34.31 | 137.62 | 137.62 | 137.62 |
| 1.4 | Interest on Working Capital | 7.53 | 27.79 | 18.39 | 73.72 | 73.55 | 64.83 |
| 1.5 | O&M Expenses | 7.62 | 28.19 | 16.25 | 68.59 | 72.19 | 75.98 |
| | **Total** | **55.70** | **229.74** | **155.21** | **616.74** | **605.95** | **585.92** |

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6. The claim in respect of the supplementary energy charges, as detailed in the Petition, is also requested to be allowed by the Hon'ble Commission.

**B. Detailed Petition**

**(i) Previous Orders issued having bearing on the present Petition**

7. This Hon'ble Commission's Orders having a bearing on the present Petition have already been detailed hereinabove in Paragraph 4 of the present Petition.

**(ii) Issue wise submission(s) with regards to expenditure claimed along with justification for variations with the norms/ previously approved tariff/ charges (in case of truing up)**

***Re. Project Implementation***

8. As has been discussed in the foregoing paragraphs, the Hon'ble Commission, *vide* Order dated 16.12.2022 had directed the Petitioner to adopt prudent methods of transparent competitive bidding to arrive at more economical and reasonable capital/ hard cost of the NOx control system in the interest of beneficiaries and the consumers. The Petitioner, in order to comply with the direction of this Hon'ble Commission, initiated the competitive bidding process on 05.01.2023 by inviting the Expression of Interest ("**EOI**").

9. The Petitioner had initially expected the process of bidding upto award to be completed by July, 2023. Accordingly, the Petitioner had envisaged the commissioning by September, 2024 i.e. considering 12 months for Unit-2 and 14 months for Unit-1. The Petitioner, accordingly, prepared De-NOx project implementation schedule, subject to actual shutdown period to be finalised in consultation with the beneficiaries/ RLDC subject to any reason

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beyond the control of MPL, and shared with the beneficiaries vide letter dated 03.04.2023. The sample copy of the letters to the beneficiaries dated 03.04.2023 are annexed herewith and marked as **ANNEXURE P/8.**

10. It is pertinent to note here that considering the significant time consumed in answering numerous pre-bid queries, site visits by the prospective bidders, time extensions sought for bid submission by the bidders, which all was essential for the wider participation, and considering the time required for detailed engineering study with the prospective vendor executing this project; delivery period indicated by the bidders from the award of the purchase order and the likely period of shutdown to be agreed by the beneficiaries, an amendment was required in the implementation schedule decided earlier.

11. Accordingly, *vide* letter dated 15.07.2023, the Petitioner, citing the afore mentioned reasons, informed the beneficiaries that the implementation of the De-NOx project would not be feasible by December-2024. The Petitioner further informed the beneficiaries that as per the experience from the preceding three years, it was highly expected that the months of April, May & June 2024 would be declared as "High Demand Season" by ERPC and as such, it would not be prudent to avail shutdown during this period when the demand for reliable as well as cost effective power is high.

12. Accordingly, the Petitioner informed the beneficiaries that an annual shut down of Unit #2 shall be availed in July 2024 wherein the De-NOx project shall also be implemented. It was further informed that since the overhauling of Unit #2 and its stabilization would take around 45-50 days,

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enough time would not be left to complete De-NOx project in Unit#1 within the timeline of December, 2024. Further, it would not be prudent to take two shut downs in one Financial Year.

13. Accordingly, in the best interest of the beneficiaries, the execution of Unit #1 De-NOx was proposed to be aligned with planned annual shut down in Unit#1, i.e. in July 2025. Sample copy of the letter to the beneficiaries dated 15.07.2023 are attached herewith and marked as **ANNEXURE P/9.**

14. The details of the competitive bidding process are discussed in the subsequent paragraphs:

***Re. Details of the Bidding Process and Chronology of the Events***

14.1 Invitation for EOI for NOx Abatement System was published on an open tender basis on 05.01.2023 via an advertisement in national edition of leading newspapers and was also uploaded on the Petitioner's website.

14.2 In response to the Invitation for EOI, following potential bidders submitted the EOI:

(a) BHEL Limited, India (BHEL)

(b) GE Power India Limited (GE)

(c) INERCO Ingeniería Tecnología y Consultoría S.A.(INERCO)

(d) L&T MHPS, Faridabad, India (L&T)

14.3 On 18.01.2023, the tender was issued along with the technical specification to above potential bidders.

14.4 Pre bid site visit at MPL was done by GE Power on 01.02.2023 and by L&T MHPS on 15.02.2023 and 16.02.2023.

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14.5 In response to the pre-bid meeting and site visits, 1st Amendment to technical specification was issued on 27th March, 2023 and consolidated pre-bid clarification was issued to all bidders by 31.03.2023.

14.6 BHEL Limited and GE Power India Limited submitted their bids and Technical Bid of these Bidders were opened on 02.05.2023.

14.7 Thereafter, 2nd Amendment to the technical specification was issued on 13.06.2023 to Bidders considering the technical limitations presented by both Bidders.

14.8 Bid Evaluation and Post Bid Discussion were held with Bidders. Based on the clarifications, responses and discussions with bidders, technical evaluation was carried out, and technical evaluation report was released on 15.06.2023.

14.9 Based on the bid documents, pre-bid clarifications issued, amendments thereto, post bid agreements etc. both Bidders submitted valid financial bids in August, 2023. Sealed No-regret financial bids were again sought from both Bidders.

14.10 Subsequently, based on inputs shared by Bidders, time and cost optimization possibilities for the De-NOx system were explored by the Petitioner and accordingly, 3rd Amendment to technical specifications was issued to all qualified Bidders on 25.10.2023 post which Final No Regret financial bids were submitted by both Bidders through e-bidding platform which was opened on 06.11.2023..

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14.11 On 23.12.2024, Award was proposed to be placed on L1 Bidder (GE Power India Limited/ GE), who had quoted final No Regret Price of Rs. 22.15 Cr (excluding GST) for the main package.

14.12 The Board of Directors of the Petitioner accorded approval on 02.01.2024 for the award and incurring total capital expenditure not exceeding Rs. 38.66 Crore, including cost for DCS augmentation, Project Management Cost, contingency, IDC and taxes, for execution of the project for both the units. The break-up of the capital expenditure approved by the Board of Directors is tabulated below:

| Sl. No. | Description | (Amt in Rs. Cr.) |
|---|---|---|
| 1 | **NOx abatement System Base Cost** | |
| 1.1 | De-NOx main package cost including Furnace CFD Analysis and LOI Analyser | 22.15 |
| 1.2 | DCS Augmentation | 5.00 |
| 2 | Total NOx abatement System Base Cost (1.1+1.2) | 27.15 |
| 3 | Engineering & Project Management Cost | 1.90 |
| 4 | **Total Base Cost of the project (2+3)** | **29.05** |
| 5 | GST | 5.23 |
| 6 | **Total NOx abatement System cost including taxes and duties (4 + 5)** | 34.28 |
| 7 | Contingency | 1.71 |
| 8 | Project cost including Taxes & Duties, IEDC and contingency | 35.99 |
| 9 | IDC and Financial charges | 2.67 |
| 10 | **Total Project Cost (6+7)** | **38.66** |

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14.13 Finally, the Contract was signed with GE on 04.01.2024.

15. Originally, the shutdown for FY 2024-25 was estimated in the month of July 2024 which was also communicated to the beneficiaries *vide* letter dated 15.07.2023. However, the actual shutdown in respect of Unit-2 was availed in November 2024 in the larger interest of the beneficiaries, with approval by ERLDC. The activities for implementation of the combustion modification (De-NOx system) were accordingly aligned with the shutdown. Accordingly, the De-NOx project for Unit-2 was commissioned on 13.01.2025.

***Re. Project Cost***

16. As per the direction of the Hon'ble Commission and as detailed out in foregoing paragraphs, the cost of the main package of the project, amounting to Rs. 2215.00 lakh (without GST), has been discovered through the process of competitive bidding. For compatibility with main plant DCS, the award for DCS package (DCS augmentation) was given to OEM BHEL at Rs. 393.26 lakh. The details of the actual project cost being claimed in the instant petition for the purpose of supplementary tariff on account of commissioning of the De-NOx project in respect of Unit-2 is discussed in the subsequent paragraphs.

17. It is noteworthy here that the estimated capital expenditure submitted to the Hon'ble Commission for the approval in Petition No. 606/MP/2020 was Rs. 4916.00 Lakh (excluding IDC). Against this, the cost discovered after the re-bidding pursuant to the Hon'ble Commission's direction in Order dated 16.12.2022 in Petition No. 606/MP/2020, which is being claimed in the

instant Petition, amounts to Rs. 3006.96 Lakh (excluding IDC) resulting in significant saving of Rs. 1909.04 Lakh.

18. The Petitioner most humbly wishes to submit that Rs. 1694.79 Lakh have been capitalised for De-NOx system in respect of Unit-2 as on 13.01.2025. The statement of capital cost as on "Unit-2 ODe" duly certified by the Auditor is annexed herewith and marked as **ANNEXURE P/10.**

19. Further, the balance amount of Rs. 1312.18 Lakh (3006.96-1694.79) towards capitalisation in respect of Unit-1 De-NOx Project, is projected to be capitalised as on 31.12.2025 i.e., projected "Unit-1 ODe". It is most humbly submitted that the IDC in respect of Unit-1, shall be claimed at the time of truing up.

***Re. Financing of the Capital Expenditure***

20. The Petitioner most humbly wishes to submit that the entire project expenditure toward De-NOx system has been met through equity and no debt has been infused.

***Re. Interest During Construction***

21. As regards the Interest During Construction ("**IDC**"), 2024 Tariff Regulations provides as below:

> *"21. **Interest During Construction (IDC) and Incidental Expenditure during Construction (IEDC)***
>
> *(1) Interest during construction (IDC) shall be computed considering the actual loan and normative loan after taking into account the prudent phasing of funds up to actual COD:*
>
> *Provided that IDC on a normative loan corresponding to excess equity over 30% of funds deployed shall be allowed only in cases where the actual infusion of equity on a pari-passu basis is more than 30% of total funds deployed and shall be computed on a quarterly basis.*

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*Provided further that in case IDC on normative loan is to be allowed prior to infusion of actual loan, rate of interest for computing such IDC shall be equal to 1-year SBI MCLR as prevailing on 1st April of the respective year.*

*Provided further that IDC on normative loan, post infusion of actual loan shall be computed based on WAROI for that respective quarter."*

22. In terms of the above regulation, the Petitioner has claimed IDC on normative loan corresponding to excess equity over 30% of funds deployed. It is submitted that since no actual loan has been availed for the De-NOx Project, 1-year SBI MCLR as on 1st Apr, 2024 has been used for computation of the IDC, in terms of the 2nd proviso to regulation 21 (1) quoted above.

23. The Petitioner has submitted the statement, duly certified by the Auditor, in respect of quarterly position of the Capital work in Progress, Advances and undischarged liabilities for the period since 1st infusion of fund till actual ODe. A copy of the Auditor Certificate regarding quarterly position of the Capital work in Progress, Advances and undischarged liabilities is annexed herewith and marked as **ANNEXURE P/11**.

24. Based on the data as certified by the Auditor, IDC has been computed corresponding to 70% of the fund infused (capital expenditure on cash basis), which amounts to Rs. 21.73 lakh apportioned to Unit-2. The detailed computation of the IDC claimed as on ODe has been enclosed as **ANNEXURE P/12.**

25. The Petitioner, in terms of the regulation 21 (1) as quoted above, prays before the Hon'ble Commission to allow the amount of IDC claimed.

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***Re. Debt-Equity Ratio***

26. As regard the debt-equity ratio for the purpose of tariff determination, the 2024 Tariff Regulations provide as below:

> *"18.* ***Debt-Equity Ratio:*** *(1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:*
> *Provided that:*
> *i where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*
> *ii the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*
> *iii any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*
>
> *Explanation-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*
> *.....*
>
> *(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation."*

27. As submitted at Paragraph 19 of the instant petition, no actual loan has been availed for the project and the entire project expenditure has been met through equity only. As such, normative Debt:Equity Ratio of 70:30 has been considered, as prescribed by the regulation quoted above.

***Re. Undischarged Liabilities***

28. The Petitioner has enclosed Auditor's Certificate in respect of the quarterly position of the Capital work in Progress, Advances and Undischarged

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Liability as on each quarter for the construction period and as on "Unit-2 ODe" as ANNEXURE P/11. The amount of undischarged liabilities as on "Unit-2 ODe" as per the certified statement is Rs. 610.56 lakh. The Petitioner humbly submits that on the basis of capital expenditure incurred toward Unit-2 and Unit-1, the undischarged liabilities apportioned to capitalisation of Unit-2, amounts to Rs. 535.21 lakh, which has been considered to arrive at the capital expenditure on cash basis as on"Unit-2 ODe".

29. On the basis of the capital cost as certified by the Auditor as on "Unit-2 ODe", the Interest During Construction on Normative Loan of 70% of the fund infused and the undischarged liabilities as on "Unit-2 ODe" towards Unit-2 as discussed in the foregoing paragraphs, the capital cost for the purpose of tariff in respect of Unit-2 as on the "Unit-2 ODe" works out as below:

**Table: Capital cost claimed as on "Unit-2 ODe"**

| Sr. No. | Particulars | Amount (Rs. lakh) |
|---|---|---|
| 1 | Capitalised Cost as on ODe# Unit-2 as per Auditors Certificate | 1694.79 |
| 2 | IDC on 70% of the capital exp being normative loan (working-1) | 21.73 |
| 3 | Less: Undischarged Liabilities as on 13.01.2025 (working-2) | 535.21 |
| 4 | **Capital Cost including IDC as on ODe# Unit-2** | **1181.30** |

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***Re. Additional Capital Expenditure***

30. As regard the Additional Capital Expenditure on account of implementation of revised emission standards, Regulation 29 (4) and (5) of the 2024 Tariff Regulations stipulate as below:

> *"29.* ***Additional Capitalization on account of Revised Emission Standards:***
>
> *....*
>
> *(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the reasonableness of the cost and impact on operational parameters shall form the basis of the determination of tariff.*
>
> *(5) Un-discharged liability, if any, on account of the emission control system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check."*

31. It is most humbly submitted that no additional capital expenditure in respect of both the Units has been claimed in the instant petition. However, the petitioner craves liberty to the Hon'ble Commission for claiming the actual Additional Capital Expenditure, if any, at the time of truing up.

32. Further, the Petitioner humbly submits that the undischarged liabilities amounting to Rs. 535.21 Lakh as on "Unit-2 ODe" is projected to be discharged during FY 2025-26. The details of the actual discharge of liabilities shall be submitted at the time of truing up exercise.

33. Based on the discussion in the foregoing paragraphs, the capital cost claimed for the purpose of supplementary tariff in respect of 2024-29 tariff period, is depicted in the following table:

*(Amount in Rs. Lakh)*

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026 - 27 | 2027 - 28 | 2028 - 29 |
|---|---|---|---|---|---|---|---|
| 1 | Opening Capital Cost* | 1181.30 | 1181.30 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 2 | Add: Addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Less: De-capitalisation during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Less: Reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Add: Discharges during the year / period | 0.00 | 535.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| **6** | **Closing Capital Cost** | **1181.30** | **1716.52** | **3028.69** | **3028.69** | **3028.69** | **3028.69** |

34. It may be noted that the opening capital cost of Rs. 1181.30 lakh as on 13.01.2025 pertains to capital cost for Unit-2. Further, the opening capital cost as on 31.12.2025 amounting to Rs. 3028.69 lakh includes capitalisation in respect of Unit-1 (Rs. 1312.18 lakh), in addition to Unit-2 capital cost and the discharge of liabilities amounting to Rs. 535.21 lakh.

***Re. Annual Fixed Charges***

35. Based on the capital cost as on "Unit-2 ODe", as well as projected capital cost as on "Unit-1 ODe", and discharge of liabilities, as discussed in the foregoing paragraphs, the Annual Fixed Charges ("**AFC**") for the tariff period 2024-29 on account of the implementation of the De-NOx abatement system is discussed in the subsequent paragraphs.

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***Re. Return on Equity***

36. As regards the Return on Equity ("**ROE**") for additional capitalization on account of the emission control system, Regulation 30 (3) of 2024 Tariff Regulations provides as below:

> *"30. **Return on Equity:***
> *.....*
> *(3) Return on equity for new project achieving COD on or after 01.04.2024 shall be computed at the base rate of 15.00% for the transmission system, including the communication system, at the base rate of 15.50% for Thermal generating station and run-of-river hydro generating station and at the base rate of 17.00% for storage type hydro generating stations, pumped storage hydro generating stations and run-of-river generating station with pondage;*
> *Provided that return on equity in respect of additional capitalization beyond the original scope, including additional capitalization on account of the emission control system, Change in Law, and Force Majeure shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India plus 350 basis points as on 1st April of the year, subject to a ceiling of 14%;"*

37. In terms of the above regulations, the Petitioner has claimed the ROE considering the base rate as 12.15% (SBI MCLR of 8.65% as on 01.04.2024 plus 350 basis points) for FY 2024-25 and 12.50% (SBI MCLR of 9% as on 01.04.2025 plus 350 basis points) for FY2025-26 onwards.

38. The base rate has been grossed up by MAT rate for FY 2024-25, subject to truing up, in terms of Regulation 31 (1) which provides as below:

> *"31. **Tax on Return on Equity.** (1) The rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. The effective tax rate shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the concerned generating company or the transmission licensee by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon.*
> *Provided that in case a generating company or transmission licensee is paying Minimum Alternate Tax (MAT) under Section 115JB*

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*of the Income Tax Act, 1961, the effective tax rate shall be the MAT rate, including surcharge and cess;"*

39. In terms of the regulations, the Petitioner has claimed Return on Equity as below:

Rs. Lakhs

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.01.2025 to 31.03.2026 | 2026 -27 | 2027 - 28 | 2028 - 29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | | 5 | 6 | 7 |
| 1 | Gross Opening Equity | 354.39 | 354.39 | 908.61 | 908.61 | 908.61 | 908.61 |
| 2 | Less: Adjustment in Opening Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Adjustment during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Net Opening Equity | 354.39 | 354.39 | 908.61 | 908.61 | 908.61 | 908.61 |
| 5 | Add: Increase in equity due to addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Less: Decrease due to Decapitalization during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | Less: Decrease due to reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Add: Increase due to discharges during the year / period | 0.00 | 160.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Net Closing Equity | 354.39 | 514.96 | 908.61 | 908.61 | 908.61 | 908.61 |
| 9 | Average Equity | 354.39 | 434.67 | 908.61 | 908.61 | 908.61 | 908.61 |
| 10 | Rate of ROE (One year SBI MCLR + 350 bps subject to ceiling of 14.00%) | 12.15% | 12.50% | 12.50% | 12.50% | 12.50 % | 12.50% |
| 11 | MAT | 17.47% | 17.47% | 17.47% | 17.47% | 17.47 % | 17.47% |
| 12 | Total RoE (Pro-rata) | 11.15 | 49.42 | 34.31 | 137.62 | 137.62 | 137.62 |
| 13 | RoE (Annualised) | 52.17 | 65.84 | 137.62 | 137.62 | 137.62 | 137.62 |

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***Re. Interest on loan capital***

40. As regards the Interest on Loan Capital, Regulation 32 of the 2024 Tariff Regulations provide as under:

> ***"32. Interest on loan capital:***
> *(1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered gross normative loans for the calculation of interest on loans.*
> *(2) The normative loan outstanding as on 1.4.2024 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2024 from the gross normative loan.*
> *(3) The repayment for each of the years of the tariff period 2024-29 shall be deemed to be equal to the depreciation allowed for the corresponding year or period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis, and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalisation of such asset.*
> *(4) Notwithstanding any moratorium period availed of by the generating company or the transmission licensee, as the case may be, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*
> *(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio or allocated loan portfolio;*
>
> *Provided that if there is no actual loan outstanding for a particular year but the normative loan is still outstanding, the last available weighted average rate of interest of the loan portfolio for the project shall be considered;*
> *Provided further that if the generating station or the transmission system, as the case may be, does not have any actual loan, then the weighted average rate of interest of the loan portfolio of the generating company or the transmission licensee as a whole shall be considered.*
>
> ***Provided that the rate of interest on the loan for the installation of the emission control system commissioned subsequent to date of commercial operation of the generating station or unit thereof, shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered, subject to a ceiling of 14%;***
>
> *Provided further that if the generating company or the transmission licensee, as the case may be, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year*

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*MCLR of the State Bank of India as applicable as on April 01, of the relevant financial year.*
*(6) The interest on the loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*
*(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing."*

***[Emphasis Supplied]***

41. It is submitted that the Normative Loan amounting to Rs. 826.91 lakh, as on Unit 2 ODe has been arrived at by applying the Debt Equity ratio of 70:30.

42. Further, since no actual loan has been availed for the project, the weighted average rate of interest in respect of the loans of the company as a whole for FY 2024-25 is provided *vide* Form-N. It is submitted that the computation of the weighted average rate of interest is based on the loan details, such as loan drawls, repayment and interest paid upto 12.01.2025 certified by the auditor, and loan details for the period 13.01.2025 to 31.03.2025 on projected basis, subject to true up. The details of the loans and interest actually paid for the year 2024-25 upto Unit 2 ODe, certified by the Auditor, has been enclosed as ANNEXURE P/6.

43. The computation of Interest on Loan is depicted below:

*Rs. Lakh*

| S. No. | Particulars | 13.1.2025 to 31.3.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026 - 27 | 2027 - 28 | 2028 - 29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Gross Normative loan – Opening | 826.91 | 826.91 | 2120.09 | 2120.09 | 2120.09 | 2120.09 |
| 2 | Cumulative repayment of Normative loan up to previous year | 0.00 | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Net Normative loan – Opening | 826.91 | 813.58 | 2049.33 | 2009.46 | 1849.54 | 1689.63 |
| 4 | Add: Increase due to addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Deletion during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Deletion during the year (70% of de-cap) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | Less: Decrease due to de-capitalisation during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Less: Decrease due to reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | Add: Increase due to discharges during the year / period | 0.00 | 374.65 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | Less: Repayment of Loan | 13.33 | 57.43 | 39.87 | 159.91 | 159.91 | 159.91 |
| 10 | Net Normative loan - Closing | 813.58 | 1130.80 | 2009.46 | 1849.54 | 1689.63 | 1529.71 |
| 11 | Average Normative loan | 820.25 | 972.19 | 2029.39 | 1929.50 | 1769.59 | 1609.67 |
| 12 | Weighted average rate of interest | 9.17% | 9.17% | 9.17% | 9.17% | 9.17% | 9.17% |
| **13** | **Interest on Loan (Pro-rata)** | **16.07** | **66.91** | **46.38** | **176.89** | **162.67** | **147.57** |
| 14 | **Interest on Loan (annualised )** | 75.20 | 89.13 | 186.05 | 176.89 | 162.23 | 147.57 |

***Re. Depreciation***

44. The depreciation has been claimed in terms of Regulation 33 of the 2024 Tariff Regulations, which stipulates as below:

*"33. Depreciation*

....

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*(11) Depreciation of the emission control system of an existing generating station that is yet to complete its useful life or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on the straight line method at rates specified in Appendix- I to these regulations;*

*Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of operation of such emission control system shall be spread over the balance period of thirteen years or balance operational life of generating station, whichever is lower;*

*Provided also that in case the date of operation of the emission control system is after the 20th year of commercial operation of the generating station or unit thereof, but before the completion of the useful life of the generating station, the depreciation on emission control system (ECS) shall be computed annually from the date of operation of such ECS based on the straight line method, with a salvage value of 10% and the depreciable value shall be recovered till the operational life of the generating station.*

*(12) In case the date of operation of the emission control system is subsequent to the date of completion of the useful life of generating station commercial operation of the generating station or unit thereof, depreciation of ECS shall be computed annually from the date of operation of such emission control system based on the straight line method, with a salvage value of 10% and recovered over ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher.*

45. The Depreciation on account of implementation of the De-NOx system has been claimed in line with the Regulation 33(11) quoted above. Auditor's certificate in respect of the classification of assets corresponding to the Appendix-1 of 2024 tariff Regulations is already enclosed as ANNEXURE P/6 along with certificate for capital cost as on ODe.

46. The computation of the depreciation is depicted below:

*Rs. Lakh*

| S. No. | Particulars | 13.01.2025 to 31.3.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| 1 | Opening Capital Cost | 1181.30 | 1181.30 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Closing Capital Cost | 1181.30 | 1716.52 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 3 | Average Capital Cost | 1181.30 | 1448.91 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 4 | Freehold land | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Rate of depreciation | 5.28% | 5.28% | 5.28% | 5.28% | 5.28% | 5.28% |
| 6 | Depreciable value | 1063.17 | 1304.02 | 2725.82 | 2725.82 | 2725.82 | 2725.82 |
| 7 | Balance operational life of the Plant at ODe/ beginning of the year | 22.10 | 21.88 | 21.13 | 20.88 | 19.88 | 18.88 |
| 8 | Remaining depreciable value | 1063.17 | 1290.69 | 2655.07 | 2615.20 | 2455.28 | 2295.37 |
| 9 | **Depreciation (annualised)** | **62.37** | **76.50** | **159.91** | **159.91** | **159.91** | **159.91** |
| 10 | **Depreciation (pro-rata)** | **13.33** | **57.43** | **39.87** | **159.91** | **159.91** | **159.91** |
| 11 | Cumulative depreciation at the end of the period | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 | 590.37 |
| 12 | Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2024 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | Deletion during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | Less: Cumulative depreciation adjustment on account of de-capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15 | Net Cumulative depreciation at the end of the period | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 | 590.37 |
| 16 | Closing Depreciable Value | 1063.17 | 1544.87 | 2725.82 | 2725.82 | 2725.82 | 2725.82 |

***Re. Operation and Maintenance Expenses***

47. As regards the Operation and Maintenance Expenses ("**O&M**"), Regulation 36 of the 2024 Tariff Regulations provide as below:

> *"36. Operation and Maintenance Expenses:*
> ...
> *(9) The operation and maintenance expenses on account of emission control systems in coal or lignite based thermal generating stations*

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*shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @ 5.25% during the tariff period ending on 31st March 2029:"*

48. In terms of the regulations, O&M expenses have been claimed at 2% of the capital cost as on respective ODe, escalated by 5.25% p.a. till 31.03.2029 as below:

***Rs. Lakhs***

| Sr. No. | Particulars | 13-1-25 to 31-3-25 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| 3 | **Total O&M Expenses (Pro-rata)** | **7.62** | **28.19** | **16.25** | **68.59** | **72.19** | **75.98** |
| 4 | **Total O&M Expenses (annualised)** | 35.68 | 37.55 | 65.17 | 68.59 | 72.19 | 75.98 |

49. Further, the Petitioner humbly prays for the liberty to approach the Hon'ble Commission to claim additional O&M expenses, if any, on account of the De-NOx project at the time of truing up.

***Re. Operational Norms***

50. The Petitioner, in its previous (Petition No. 606/MP/2020) had submitted that the installation of DeNOx system ("**In-Combustion**") may also have an adverse impact on boiler efficiency by about 0.8% thereby increasing Station Heat Rate ("**SHR**") by about 22 kCal/ kWh and, thus on Energy Charge Rate ("**ECR**"). The Petitioner had therefore, requested the Hon'ble Commission to allow the increased SHR and ECR during Supplementary Tariff post installation of DeNOx system. On this aspect, the Hon'ble Commission had observed that this would arise only after the ECS system is installed and becomes operational. Hence, the same shall be considered

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after the installation of NOx control system. The impact of the installation of the NOx abatement system on the gross station heat rate and consequentially on the ECR is discussed in the succeeding paragraphs.

51. It is submitted that in the previous bidding process carried out for the implementation of in combustion modification system in 2018, the original specification released to Bidders on 05.12.2018, specified that increase in Un-Burnt Carbon ("**UBC**") in Bottom Ash ("**BA**") and Fly Ash ("**FA**") shall not be more than 10% of the UBC reported in Base line testing.

52. In this respect, all Bidders insisted Tata Power for increase in this limit on the premise that the allowed increase in UBC in BA and FA was very less and not achievable after implementation of 'In Combustion Modification'.

53. Considering Bidders inability to meet specified guarantee limit for increase in UBC in FA & BA, *vide* Amendment No. 1 to Technical Specification dated 15th July 2019, the limit for increase in UBC Heat Loss [FA & BA combined] i.e., Drop in Boiler Efficiency after implementation of 'In Combustion Modification' was increased to 0.5%. However, all the bidders expressed their inability to achieve the same, insisting for further upward revision. Considering the practical challenge faced by the bidders and analysing the practice being followed by other generation utilities, the norm was revised to 0.8% *vide* Amendment No. 2 to Technical Specification dated 11.09.2019.

54. In this backdrop, with the experience faced during the previous bidding process, the Petitioner in the bidding for instant De-NOx project, stipulated the Guarantee Parameter with respect to combined Fly Ash and Bottom Ash Unburnt Carbon Heat Loss (i.e. reduction in Boiler Efficiency) as 0.8%

after "In-combustion Modification". The Performance Guarantee Schedule specifying this guarantee parameter is annexed herewith and marked as **ANNEXURE P/13.**

55. In light of the challenging situation as discussed hereinabove and the inevitable decrease in boiler efficiency solely due to installation of De-NOx system, the Petitioner hereby requests the Hon'ble Commission to consider reduction in the boiler efficiency by 0.8% in line with the guarantee parameter and allow the consequent increase in the Station Heat Rate by 22.19 kCal/ kWh (2385.59-2363.40), invoking the Hon'ble Commission's *"Power to Relax"* under Regulations 102 of the 2024 Tariff Regulations as this increase is for reasons beyond the control of the Petitioner.

56. Even otherwise, the Hon'ble Commission, in order to fully pass on the impact of Change in Law (i.e. implementation of ECS) may consider the above request of the Petitioner as the degradation of SHR is a direct function of installation of the ECS.

57. Accordingly, it is respectfully submitted that the installation of the NOx abatement system under the ECS framework, mandated pursuant to the Notification dated 07.12.2015 issued by the MoEFCC, has already been recognized as a Change in Law event by this Hon'ble Commission in various decisions, including in the Petitioner's case by its Order dated 20.03.2017 in Petition No. 72/MP/2016. The Hon'ble Commission, in line with its consistent jurisprudence, has interpreted 'Change in Law' in a purposive manner, emphasizing that the principle underlying the same is restitution,

i.e., to restore the affected party to the same economic position as if such change had not occurred.

58. In the instant case, the installation of the De-NOx system has led to a demonstrable and unavoidable reduction in boiler efficiency, as detailed in the technical specifications and the bidding process highlighted above, resulting in an increase in the Station Heat Rate by 22.19 kCal/kWh. This is not a speculative impact, but one that is quantifiable and well-documented. Accordingly, in furtherance of the restitution principle, and in light of the challenges faced during technology implementation, the Petitioner humbly prays that the Hon'ble Commission be pleased to consider this adverse technical impact as part of the Change in Law compensation and allow the consequential increase in SHR and ECR.

59. The computation of the Station Heat Rate under the normal situation as well as after considering the reduction in the boiler efficiency by 0.8% is illustrated below:

| **Particulars** | **With normal Boiler efficiency*** | **With Boiler efficiency reduced by 0.8%** |
|---|---|---|
| Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) | 1945 | 1945 |
| Design/ Guaranteed Boiler Efficiency (%) | 86.00% | 85.20% |
| Design Heat Rate (kCal/kWh) | 2261.63 | 2282.86 |
| Multiplying factor | 1.045 | 1.045 |
| Gross Station Heat Rate (kCal/kWh) | 2363.40 | 2385.59 |

**As claimed in the Tariff Petition for determination of tariff for 2024-29 tariff period*

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60. The Petitioner humbly requests for liberty to claim the impact due to the De-NOx system on the Auxiliary Power Consumption at the time of truing up of supplementary tariff for the 2024-29 tariff period.

***Re. Increase in Energy Charge Rate***

61. Regulation 64 of the 2024 Tariff Regulations provides as under:

> "***64. Computation and Payment of Energy Charge for Thermal Generating Stations and Supplementary Energy Charge for Coal or Lignite based Thermal Generating Stations:***
>
> *(1) The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable) and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). The total Energy charge payable to the generating company for a month shall be:*
> *Energy Charges = (Energy charge rate in Rs./kWh) x {Scheduled energy (ex bus) for the month in kWh}*
>
> *(2) The supplementary energy charge on account of the emission control system shall cover the differential energy charges due to auxiliary energy consumption and cost of reagent consumption and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the supplementary energy charge rate of the month. The total supplementary energy charge payable to the generating company for a month shall be:*
>
> *Supplementary Energy Charges = (Supplementary energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh}*
>
> *(3) Energy charge rate (ECR) and Supplementary Energy charge rate in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:*
>
> *(a) ECR for coal based and lignite fired stations:*
> *ECR = [{(SHR - SFC x CVSF) x LPPF / CVPF} + (SFC x LPSFi) + (LC x LPL)] x 100 /(100 - AUX)*
> *(b) Supplementary ECR for coal and lignite based thermal generating stations:*
> *Supplementary ECR = (ΔECR) + [(SRC x LPR / 10)/(100-(AUXn + AUXen))]*

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*Where,*

*.....*

*(ΔECR) = Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to (AUXn + AUXen) and ECR with normative auxiliary energy consumption as specified in these regulations;*

62. In line with the relaxation sought by the Petitioner in the SHR, it is humbly submitted that there would be consequent impact on the ECR. It is further submitted that the formula prescribed for computation of supplementary ECR in the above quoted regulations deals with the impact on ECR due to increase in Auxiliary Power Consumption and reagent consumption. The Petitioner humbly prays before this Hon'ble Commission to kindly allow the impact on ECR due to increased Heat Rate to be recovered in the monthly bills following the same formulation modified as follows:

*(ΔECR) = Difference between ECR with revised auxiliary energy consumption/ SHR with emission control system equivalent to (AUXn + AUXen)/ revised SHR and ECR with normative auxiliary energy consumption/ SHR;*

***Re. Interest on Working Capital***

63. Regulation 34 of the 2024 Tariff Regulations provides as under:

*"34. **Interest on Working Capital:** (1) The working capital shall cover:*

*(b) For emission control system of coal or lignite based thermal generating stations:*

*(i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;*

*(ii) Advance payment for 30 days towards the cost of reagent for generation corresponding to the normative annual plant availability factor;*

*(iii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for the sale of electricity calculated on the normative annual plant availability factor;*

*(iv) Operation and maintenance expenses in respect of the emission control system for one month;*

*(v) Maintenance spares @20% of operation and maintenance expenses in respect of emission control system.*

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*(2) The cost of fuel in cases covered under sub-clauses (a) and (c) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 59 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the preceding financial year in case of each financial year for which tariff is to be determined:*

*Provided that in the case of a new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 59 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.*

*(3) Rate of interest on working capital shall be on a normative basis and shall be considered at the Reference Rate of Interest as on 1.4.2024 or as on 1st April of the year during the tariff period 2024-29 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:*

*Provided that in case of truing-up, the rate of interest on working capital shall be considered at Reference Rate of Interest as on 1st April of each of the financial year during the tariff period 2024-29.*

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

64. The Interest on Working Capital for Tariff Period 2024-29 for the purpose of determination of supplementary tariff is shown in the Table below:

*Rs. lakh*

| S. No. | Particulars | 13-1-25 to 31-3-25 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026 - 27 | 2027 - 28 | 2028 - 29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Cost of Coal/Lignite* | 133.61 | 133.61 | 267.22 | 267.22 | 267.22 | 267.22 |
| 2 | Cost of Main Secondary Fuel Oil | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Fuel Cost | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Liquid Fuel Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Cost of Limestone | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | O & M Expenses | 2.97 | 3.13 | 5.43 | 5.72 | 6.02 | 6.33 |
| 7 | Maintenance Spares | 7.14 | 7.51 | 13.03 | 13.72 | 14.44 | 15.20 |
| 8 | Receivables | 152.39 | 157.98 | 316.54 | 315.15 | 312.74 | 240.50 |
| 9 | Total Working Capital | 296.11 | 302.23 | 602.23 | 601.81 | 600.42 | 529.25 |
| 10 | Rate of Interest | 11.90% | 12.25% | 12.25% | 12.25 % | 12.25 % | 12.25% |
| 11 | Interest on Working Capital (Pro-rata) | 7.53 | 27.79 | 18.39 | 73.72 | 73.55 | 64.83 |
| 12 | Interest on Working Capital (annualised) | 35.24 | 37.02 | 73.77 | 73.72 | 73.55 | 64.83 |

**Incremental coal cost due to impact on SHR*

**(iii) Final Claims made in the petition**

65. Based on the above submissions the Petitioner has computed the Annual Fixed Charges on pro-rata basis. The Hon'ble Commission is requested to allow the same shown as below:

*Rs. lakh*

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026 - 27 | 2027 - 28 | 2028 - 29 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Summary of Tariff | | | | | | |
| 1.1 | Depreciation | 13.33 | 57.43 | 39.87 | 159.91 | 159.91 | 159.91 |
| 1.2 | Interest on Loan | 16.07 | 66.91 | 46.38 | 176.89 | 162.67 | 147.57 |
| 1.3 | Return of Equity | 11.15 | 49.42 | 34.31 | 137.62 | 137.62 | 137.62 |
| 1.4 | Interest on Working Capital | 7.53 | 27.79 | 18.39 | 73.72 | 73.55 | 64.83 |
| 1.5 | O&M Expenses | 7.62 | 28.19 | 16.25 | 68.59 | 72.19 | 75.98 |
| | **Total** | **55.70** | **229.74** | **155.21** | **616.74** | **605.95** | **585.92** |

66. The Petitioner craves liberty to claim the Annual Fixed Charges based on actual capital expenditure, at the time of truing up.

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**C. Limitations**

67. Notably, Regulation 9(3) of the 2024 Tariff Regulations, in case an ECS is required to be installed in the existing generating station or unit thereof to meet the revised emission standards, an application shall be made for the determination of supplementary tariff (capacity charges or energy charge or both) based on the actual capital expenditure duly certified by the Auditor.

68. It is also pertinent to note that in terms of Regulation 8(1)(iii) of the 2024 Tariff Regulations, the generating company shall file an application for determination of supplementary tariff for the emission control system installed in a coal or lignite based thermal generating station in accordance with these regulations not later than 90 days from the date of operation of such emission control system.

69. The ECS for Unit 2 of the Project achieved its ODe on 13.01.2025, therefore, the present Petition is to be filed by the Petitioner on or before 15.04.2025 on account of 13.04.2025 being Sunday and 14.04.2025 being declared a national holiday on account of Ambedkar Jayanti, in terms of the Regulation 39 of the CERC (Conduct of Business) Regulations, 2023 read along with the provisions of the Limitation Act, 1963.

70. It is submitted that in terms of Section 4 of the Limitation Act, 1963, where the prescribed period for any suit, appeal or application expires on a day when the court is closed, such suit, appeal or application may be instituted on the day the court reopens. Since both 13.04.2025 and 14.04.2025 are

non-working days, the Petitioner has instituted the present Petition within the prescribed period of limitation.

71. Accordingly, the Petitioner declares that the present Petition is within the limitation specified by this Hon'ble Commission.

72. The Petitioner further seeks liberty from this Hon'ble Commission to suitably amend the present Petition in respect of De-Nox of Unit-1 of the Project once it achieves its ODe, to claim and seek reliefs pertaining to the Project, in the interest of justice. Further, the Petitioner prays before this Hon'ble Commission to allow the Petitioner to add details of further additional capital and other expenditures on FGD system, which will become operational for Unit-1 and Unit-2 in near future

**D. Prayers**

73. In view of the submissions made in the instant petition, the Petitioner respectfully prays that the Hon'ble Commission may kindly be pleased to:

(a) Admit the present petition;

(b) Approve the capital cost and Supplementary Tariff on account of installation of ECS for the Tariff Period 2024-29;

(c) Allow reduction in boiler efficiency by 0.8% and consequent impact on SHR for the Generating Station as prayed for, in exercise of *"Power to Relax"* under Regulation 102 of 2024 Tariff Regulations, and the principle of restitution, allowing the recovery of consequent incremental Energy Charges on account of revision in SHR as claimed, for the Generating Station, through monthly billing;

(d) Allow the Petitioner to bill on provisional basis towards recovery of

supplementary fixed charge and Energy Charge based on submission in this Petition from "Unit-2 ODe" till the period this petition is finally disposed by this Hon'ble Commission. Any variation between the billed amount and the approved amount by Hon'ble Commission will be adjusted as per 2024 Tariff Regulations;

(e) Grant liberty to approach the Hon'ble Commission to claim the additional capital expenditure, additional O&M expenses and impact on Auxiliary Power Consumption, if any, at the time of true up for 2024-29 tariff period;

(f) Allow the recovery of publication expenses from the beneficiaries, in accordance with Regulation 94 of the 2024 Tariff Regulations;

(g) Allow Petitioner to add details of further additional capital and other expenditures on FGD system, which will become operational for Unit-1 and Unit-2 in near future;

(h) Grant liberty from this Hon'ble Commission to file a to suitably amend the present Petition in respect of De-Nox of Unit-1 of the Project upon its achieving its ODe;

(i) Condone any inadvertent omissions, errors, short comings and permit the Petitioner to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date; and

(j) Pass such other and further Orders as deemed fit and proper in the facts and circumstances of the case.

MAITHON POWER LIMITED

**E. TARIFF FILING FORMS**

Tariff filing forms along with the checklist of the same is submitted with the present Petition which is in accordance with the applicable regulations i.e., Tariff Regulations, 2024.

**F. ANNEXURE**

As per Index

**G. PROOF OF PAYMENT OF FEES FOR FILING OF THE PETITION**

Unique Online Payment Transaction Number Transaction Nos. given in fee form

Counsel for the Petitioner
SKV Law Offices
B-50, Defence Colony,
New Delhi-110024

**PETITIONER**

**DECLARATION**

The Petitioner above named hereby solemnly declare(s) that nothing material has been concealed or suppressed and further declare(s) that the enclosures and typed set of material papers relied upon and filed herewith are true copies of original(s)/fair representation of the originals/true translation thereof.

Verified at Dhanbad on the 11 day of April, 2025.

Counsel for the Petitioner
SKV Law Offices
B-50, Defence Colony,
New Delhi-110024

**PETITIONER**

**VERIFICATION**

**DEPONENT**

Verified at Dhanbad on this 11 day of April 2025 that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.

**DEPONENT**

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION,**

**AT NEW DELHI**

**PETITION NO. _____ /GT/2025**

**IN THE MATTER OF:**

Maithon Power Limited ...Petitioner

***Versus***

Tata Power Delhi Distribution Ltd. & Ors. ...Respondents

**AFFIDAVIT**

I, Angshuman Chakrabarti, S/o. Bimalendu Chakrabarti, aged about 51 years, Qr No: E2,Anandam, MPL Township, Area#6, Near DVC Fire Station, Maithon Dam, Dhanbad, Jharkhand828207,do hereby solemnly affirm and state on oath as under:

1. That the deponent is the CFO and Authorized Signatory of the Petitioner company and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.

2. That the accompanying Petition has been filed by my nominated counsel under my instructions and the contents of the same are true and correct to the best of my knowledge and belief.

3. That the contents of Paras 1 to 73 of the facts as mentioned in the Petition are true and corrects based on my personal knowledge, belief and records maintained in the office and the contents of Paras 1 to 73 of the Petition are believed to be true on the basis of the legal advice received.

4. That the Annexures annexed to the Petition are correct and true copies of the respective originals.

S.No. 52 Date 11 APR 2025

NOTARY H. L. CHAUHAN Dhanbad (Jharkhand) Regd. No.- 36567/25 GOVT. OF INDIA

5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute.

MAITHON POWER LIMITED

DEPONENT

**VERIFICATION**

Verified at Dhanbad, on this 11 day of April, 2025 that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.

11/04/25

H. L. CHAUHAN NOTARY Regd. 8567/25 DHANBAD Govt. of India

NOTARY
DHANBAD
Authorised
u/s 333 (i) (c) of the B.N.S.S. 2023
(Act No 11 of 1974) & u/s (6)
(i) of the Notaries Act 1952
(Act No 53 of 1952)

MAITHON POWER LIMITED

DEPONENT

ADVOCATES CLERK WELFARE FUND
₹5 पाँच रुपये ₹5 FIVE RUPEES

Welfare Ticket
Not Available

S.No. 50 Date 11 APR 2025

NOTARY
H. L. CHALIHA
Dhanbad (Jharkhand)
Regd. No.-
GOVT. OF INDIA

ENRL. NO. ...3011/2004

DBA
DHANBAD BAR ASSOCIATION

98128

DHANBAD BAR ASSOCIATION

**ANNEXURE-P/1**

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2620] नई दिल्ली, मंगलवार, दिसम्बर 8, 2015/अग्रहायण 17, 1937
No. 2620] NEW DELHI, TUESDAY, DECEMBER 8, 2015/AGRAHAYANA 17, 1937

## पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

## अधिसूचना

नई दिल्ली, 7 दिसम्बर, 2015

का.आ. 3305(अ).— केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् :—

1.(1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण) संशोधन नियम, 2015 है।

(2) ये उनके राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 की अनुसूची 1 में,—

(क) क्रम सं. 5 और उससे संबंधित प्रविष्टियों के स्थान पर निम्नलिखित क्रम सं. और प्रविष्टियां अंत:स्थापित की जाएंगी, अर्थात् :—

| क्रम सं. | उद्योग | मापदंड | मानक |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5क | ताप विद्युत संयंत्र (जल उपभोग सीमा) | जल उपभोग | I. एक बार शीतलन (ओटीसी) के माध्यम से सभी संयंत्र शीतलन टावरों (सीटी) को प्रतिष्ठापित करेंगे और अधिसूचना की तारीख से दो वर्ष की अवधि के भीतर अधिकतम 3.5$m^3$/MWh के विनिर्दिष्ट जल उपभोग को हासिल करेंगे। |

| | | | |
|---|---|---|---|
| | | | II. सभी विद्यमान सीटी-आधारित संयंत्र 3.5m³/MWh इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर अधिकतम 3.5m³/MWh तक के विनिर्दिष्ट जल उपभोग को कम करेंगे।<br>III. जनवरी, 2017 के पश्चात् प्रतिष्ठापित किए जाने वाले नए संयंत्र अधिकतम 2.5 m³/MWh तक के विनिदिष्ट जल उपभोग को पूरा करेंगे और शून्य जल दुर्व्यय को हासिल करेंगे। |

(ख) क्रम सं. 25 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम सं. और प्रविष्टियां रखी जाएंगी, अर्थात् :—

| क्रम सं. | उद्योग | मापदंड | मानक |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| | | विवक्त पदार्थ | 100 mg/Nm³ |
| | | सल्फर डायोक्साइड( $SO_2$) | 600 mg/Nm³ (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां)<br>200 mg/Nm³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां) |
| | | नाइट्रोजन के आक्साइड (NOx) | 300 mg/Nm³ |
| | | पारा (Hg) | 0.03 mg/Nm³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां) |
| | | 1 जनवरी, 2003 के पश्चात् 31 दिसंबर, 2016* तक प्रतिष्ठापित टीपीपी (इकाईयां) | |
| | | विवक्त पदार्थ | 50 mg/Nm³ |
| | | सल्फर डायोक्साइड ($SO_2$) | 600 mg/Nm³ (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां)<br>200 mg/Nm³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां) |
| | | नाइट्रोजन के आक्साइड (NOx) | 300 mg/Nm³ |
| | | पारा ( Hg) | 0.03 mg/Nm³ |
| | | 1 जनवरी, 2017** से प्रतिष्ठापित टीपीपी (इकाईयां) | |
| | | विवक्त पदार्थ | 30 mg/Nm³ |
| | | सल्फर डायोक्साइड ($SO_2$) | 100 mg/Nm³ |
| | | नाइट्रोजन के आक्साइड | 100 mg/Nm³ |

| | | | |
|---|---|---|---|
| | | (NOx) | |
| | | पारा ( Hg) | 0.03 mg/Nm³ |

* टीपीपी (इकाईयां) इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर परिसीमाओं को पूरा करेंगी।

** इसके अंतर्गत सभी टीपीपी (इकाईयां) हैं, जिन्हें पर्यावरणीय निकासी प्रदान की गई है और संनिर्माण के अधीन है।

[फा. सं. क्यू-15017/40/2007-सीपीडब्ल्यू]

डा. राशिद हसन, सलाहकार

टिप्पण :- मूल नियम भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (ii) में सं. का.आ. 844(अ) 19 नवंबर, 1986 द्वारा प्रकाशित किए गए थे और उनका पश्चातवर्ती का.आ. 433(अ) तारीख 18 अप्रैल, 1987 ; सा.का.नि 176(अ) तारीख 2 अप्रैल, 1996; सा.का.नि. 97 (अ), तारीख 18 फ़रवरी, 2009 ; सा.का.नि 149(अ) तारीख 4 मार्च, 2009 ; सा.का.नि. 543(अ) तारीख 22 जुलाई, 2009 ; सा.का.नि. 739(अ) तारीख 9 सितम्बर, 2010 ; सा.का.नि. 809(अ) तारीख 4 अक्टूबर, 2010, सा.का.नि. 215(अ) तारीख 15 मार्च, 2011 ; सा.का.नि. 221(अ) तारीख 18 मार्च, 2011 ; सा.का.नि. 354(अ) तारीख 2 मई, 2011 ; सा.का.नि. 424(अ) तारीख 1 जून, 2011 ; सा.का.नि. 446(अ) तारीख 13 जून, 2011 ; सा.का.नि. 152(अ) तारीख 16 मार्च, 2012 ; सा.का.नि. 266(अ) तारीख 30 मार्च, 2012 ; सा.का.नि. 277(अ) तारीख 31 मार्च, 2012; सा.का.नि. 820(अ) तारीख 9 नवम्बर, 2012 ; सा.का.नि. 176(अ) तारीख 18 मार्च, 2013 ; सा.का.नि. 535(अ) तारीख 7 अगस्त, 2013 ; सा.का.नि. 771(अ) तारीख 11 दिसम्बर, 2013 ; सा.का.नि. 2(अ) तारीख 2 जनवरी, 2014 ; सा.का.नि. 229(अ) तारीख 28 मार्च, 2014 ; सा.का.नि. 232(अ) तारीख 31 मार्च, 2014 ; सा.का.नि. 325(अ) तारीख 7 मई, 2014, सा.का.नि. 612(अ) तारीख 25 अगस्त, 2014 और अन्तिम संशोधन सा.का.नि. 789(अ) तारीख 11 नवम्बर, 2014 किया गया था।

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

## NOTIFICATION

New Delhi, the 7th December, 2015

S.O. 3305(E).— In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:–

1. (1) These rules may be called the Environment (Protection) Amendment Rules, 2015.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule – I, -

(a) after serial number 5 and entries relating thereto, the following serial number and entries shall be inserted, namely:–

| Sr. No. | Industry | Parameter | Standards |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| "5A. | Thermal Power Plant (Water consumption limit) | Water consumption | I. All plants with Once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption upto maximum of 3.5m³/MWh within a period |

| | | | |
|---|---|---|---|
| | | | of two years from the date of publication of this notification.<br>II. All existing CT-based plants reduce specific water consumption upto maximum of 3.5$m^3$/MWh within a period of two years from the date of publication of this notification.<br>III. New plants to be installed after 1st January, 2017 shall have to meet specific water consumption upto maximum of 2.5 $m^3$/MWh and achieve zero waste water discharged"; |

(b) for serial number 25, and the entries related thereto, the following serial number and entries shall be substituted, namely:-

| Sr. No. | Industry | Parameter | Standards |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| "25. | Thermal Power Plant | TPPs ( units) installed before 31st December, 2003* | |
| | | Particulate Matter | 100 mg/$Nm^3$ |
| | | Sulphur Dioxide ( $SO_2$) | 600 mg/$Nm^3$ (Units Smaller than 500MW capacity units)<br>200 mg/$Nm^3$ (for units having capacity of 500MW and above) |
| | | Oxides of Nitrogen ( NOx) | 600 mg/$Nm^3$ |
| | | Mercury ( Hg) | 0.03 mg/$Nm^3$(for units having capacity of 500MW and above) |
| | | TPPs ( units) installed after 1st January,2003, upto 31st December, 2016* | |
| | | Particulate Matter | 50 mg/$Nm^3$ |
| | | Sulphur Dioxide ($SO_2$) | 600 mg/$Nm^3$ (Units Smaller than 500MW capacity units)<br>200 mg/$Nm^3$ (for units having capacity of 500MW and above) |
| | | Oxides of Nitrogen ( NOx) | 300 mg/$Nm^3$ |
| | | Mercury ( Hg) | 0.03 mg/$Nm^3$ |
| | | TPPs ( units) to be installed from 1st January, 2017** | |
| | | Particulate Matter | 30 mg/$Nm^3$ |
| | | Sulphur Dioxide ($SO_2$) | 100 mg/$Nm^3$ |
| | | Oxides of Nitrogen ( NOx) | 100 mg/$Nm^3$ |
| | | Mercury ( Hg) | 0.03 mg/$Nm^3$ |

*TPPs (units) shall meet the limits within two years from date of publication of this notification.

**Includes all the TPPs (units) which have been accorded environmental clearance and are under construction".

[F. No. Q-15017/40/2007-CPW]

Dr. RASHID HASAN, Advisor

Note: - The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) *vide* number S.O. 844(E), dated the 19th November, 1986 and subsequently amended *vide* the following notifications:—

S.O. 433(E), dated 18th April 1987; G.S.R. 176(E) dated 2nd April, 1996; G.S.R. 97(E), dated the 18th February, 2009; G.S.R. 149(E), dated the 4th March , 2009; G.S.R. 543(E), dated 22nd July, 2009; G.S.R. 739(E), dated the 9th September, 2010; G.S.R. 809(E), dated, the 4th October, 2010, G.S.R. 215(E), dated the 15th March, 2011; G.S.R. 221(E), dated the 18th March, 2011; G.S.R. 354(E), dated the 2nd May, 2011; G.S.R. 424(E), dated the 1st June, 2011; G.S.R. 446(E), dated the 13th June, 2011; G.S.R. 152(E), dated the 16th March, 2012; G.S.R. 266(E), dated the 30th March, 2012; and G.S.R. 277(E), dated the 31st March, 2012; and G.S.R. 820(E), dated the 9th November, 2012; G.S.R. 176(E), dated the 18th March, 2013; G.S.R. 535(E), dated the 7th August, 2013; G.S.R. 771(E), dated the 11th December, 2013; G.S.R. 2(E), dated the 2nd January, 2014; G.S.R. 229(E), dated the 28th March, 2014; G.S.R. 232(E), dated the 31st March, 2014; G.S.R. 325(E), dated the 07th May, 2014, G.S.R. 612,(E), dated the 25th August, 2014 and lastly amended vide notification G.S.R. 789(E), dated 11th November, 2014.

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# ANNEXURE-P/2

**CENTRAL ELECTRICITY REGULATORY COMMISSION**
**NEW DELHI**

**Petition No. 72/MP/2016**

**Coram:**
**Shri Gireesh B. Pradhan, Chairperson**
**Shri A. K. Singhal, Member**
**Shri A.S. Bakshi, Member**
**Dr. M.K. Iyer, Member**

**Date of Order: 20th of March, 2017**

**In the matter of**

Petition seeking in-principle approval of the "Abstract Schemes" of Capital Expenditure in compliance with Environment (Protection) Amendment Rules, 2015 issued by the Ministry of Environment, Forest and Climate Change dated 7.12.2015.

**And**
**In the matter of**

Maithon Power Limited
34, Sant Tukaram Road, Carnac Bunder,
Mumbai - 400 009

**…….. Petitioner**

**Versus**

1. Damodar Valley Corporation,
DVC Headquarters, DVC Towers, VIP
Road, Kolkata – 700054.

2. Tata Power Delhi Distribution Limited,
NDPL House, Hudson Lane,
Kingsway Camp, New Delhi – 110 009.

3. West Bengal State Electricity Distribution Company Limited
Vidyut Bhavan, Bidhannagar,
Sector II, Salt Lake, Kolkata - 700 091.

4.Kerala State Electricity Board Limited
Vydyuthui Bhavnam, Pattom
Thiruvananthpuram-695004

5. Tata Power Trading Company Limited
Corporate Centre, 'A' Block,

34, Sant Tukaram Road, Carnac Bunder,
Mumbai 400 006.

**……Respondents**

**Parties Present:**

Shri Aveek Chaterjee, MPL
Shri Ramkrishna Gadre, MPL
Shri Pradip Roy, MPL
Shri Abhay Kumar, MPL

**ORDER**

The petitioner, Maithon Power Limited (**"MPL"**), a Joint Venture company of the Tata Power Company Ltd and Damodar Valley Corporation has filed the present petition under Regulation 13 (3) (ii) read with Regulation 3 (9) and 12 (2) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (2104 Tariff Regulations) seeking in-principle approval of the 'Abstract Schemes' of capital expenditure in compliance with the Environment (Protection) Amendment Rules, 2015 issued by the Ministry of Environment, Forest and Climate Change ( MoEFCC) on 7.12.2015.

2. The Petitioner, Maithon Power Limited (**"MPL"**), a Joint Venture company of the Tata Power Company Ltd and Damodar Valley Corporation has set up a 1050 MW (2x250 MW) Maithon Right Bank Thermal Power Project (generating station) in District Dhanbad in the State of Jharkhand. Unit 1 and Unit-II of the generating station were commissioned on 1.9.2011 and 24.7.2012 respectively. The petitioner has entered into long-term PPAs/PSAs with DVC for sale of 300 MW of power, WBSEDCL for sale of 300MW of

power through TPTCL, TPDDL for sale of 300MW of power through TPTCL and KSEBL for sale of 150MW of power.

3. The Government of India, Ministry of Environment, Forest and Climate Change (MoEFCC) vide its Notification No.S.O.3305(E) dated 7.12.2015 notified the Environment (Protection) Amendment Rules, 2015 (Amendment Rules, 2015) amending/introducing the standards for emission of environmental pollutants to be followed by the 'Thermal Power Plants'. By the said Amendment Rules, all existing Thermal Power Plants are required to meet the modified/new norms within a period of two (2) years from the date of the Notification. By the said amendment, MoEFCC has,-

(a) Revised emission parameters of Particulate Matter ("***PM"***).

(b) Introduced new parameters qua Sulphur Dioxide (SO2), Oxides of Nitrogen (NOx) and Mercury (Hg).

(c) Directed all Thermal Power Plants with Once Through Cooling (***"OTC"***) to install Cooling Tower (***"CT"***); and

(d) Introduced/prescribed a limit to the amount of Cooling Water to be used per Unit.

4. The submissions of the petitioner are as under:

(a) As per the Amendment Rules, 2015, the thermal generating stations are required to comply with the revised environmental norms within 2 years of the date of publication of the above notification dated 7.12.2017. The revised norms as applicable for Maithon Project are summarized as under:

| Sr. No. | Parameter | Standards | Design/Actual Values |
|---|---|---|---|
| 1. | **Water Consumption** | All plants with Once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption upto maximum of 3.5 $m^3$/MWh. | Closed cooling System. Actual specific water consumption is within specified limit. |

| | | | |
|---|---|---|---|
| 2. | **Particulate Matter** for TPPs (units) installed after 1st January 2003 upto 31st December, 2016 | 50 mg/$Nm^3$ | Design - 50 mg/$Nm^3$ Actual - Within specified limit. |
| 3. | **Sulphur Dioxide (SO2)** for TPPs (units) installed after 1st January 2003 upto 31st December, 2016 | 200 mg/$Nm^3$ (units having capacity of 500 MW and above) | Actual observed - 647 to 1012 mg/$Nm^3$ at 6% O2 with Sulphur in Coal around 0.44% (Air-Dry basis). |
| 4. | **Oxides of Nitrogen (NOx)** for TPPs (units) installed after 1st | 300 mg/$Nm^3$ | Design - 880 mg/$Nm^3$ Actual observed – 612 to 819 mg/$Nm^3$ at 6% O2. |
| 5. | **Mercury (Hg)** for TPPs (units) installed after 1st | 0.03 mg/$Nm^3$ | Within limit. |

(b) The petitioner operates its generating station within the new limits prescribed by MoEFCC for Water Consumption, Particulate Matter and Mercury (Hg). However, it shall have to carry out modifications in the Project in order to comply with the norms prescribed for Sulphur Dioxide (*"$SO_2$"*) and Oxides of Nitrogen (*"NOx"*). In order to achieve the norms prescribed for $SO_2$ and NOx as applicable for the Maithon Project, an initial estimate has been developed that indicates a substantial investment requirement besides having impact on O&M expenses and some of the operational parameters having impact on available energy and the resultant costs of generation from generating station.

(c) Pursuant to Amendment Rules, 2015, the petitioner is required to estimate appropriate Additional Capital Expenditure Schemes ("Abstract Schemes") and obtain an in-principle approval from the Commission before committing any capital expenditure and undertaking any modification in the

Plant and Machinery of the Project. The petitioner, therefore, has proposed to take up and commission the two Abstract Schemes, namely (i) installation of Flue Gas De-Sulphurization ("FGD") Plant ,and (ii) Installation of Selective Catalytic Reduction alongwith associated Electrical System Modification and Civil Foundations. The Abstract Schemes are estimated to be commissioned in the tariff period of financial year 2014-19.

(d) The following norms are applicable for the generating station:

| Installation of TPP | Sulphur Dioxide | Oxides of Nitrogen |
|---|---|---|
| TPPs (Units) installed between 1.1.2003 and 31.12.2016 | 200 mg/$Nm^3$ for >500MW | 300 mg/$Nm^3$ |

(e) The Amendment Rules, 2015 can be categorized specifically under Regulation 3 (9) of the 2014 Tariff Regulations. Such event of 'Change in Law' has a substantial impact on the following:

(i) The capital cost of the Maithon Project, on account of installation of additional plant, machinery and equipment for complying with the norms prescribed under the MoEFCC Notification have been triggered .

(ii) The O&M Expenses of the Maithon Project, including any other additional cost on account of purchase of raw material, consumables for the operation of additional plant, machinery and equipment purchased for complying the norms prescribed under the MoEFCC Notification, routine Maintenance, preventive Maintenance and breakdown Maintenance of these additional plant, machinery and equipment and performance impact due to modification of the Project at all.

(iii) In addition to the above, there is a possibility of an impact on some of the operational parameters such as the Station Heat Rate as well as the Auxiliary Power Consumption, etc. which would be better ascertained subsequent to the detailed engineering study and finalization of the specifications and other design and operational details of the proposed Abstract Schemes.

(f) With the given deadline for implementation of such Amendment Rules, 2015 by the MoEFCC, investment towards Abstract Schemes is unavoidable for the petitioner. The petitioner is required to implement sophisticated technology to bridge the gap between the existing parameters and the desired parameters. The initial estimates for capital expenditure pertaining to the above parameters puts the investment requirements to be about **Rs.** 2065 crore including Interest During Construction ("IDC"). Therefore, the in-principle approval of the Commission is required for securing financing from the financial institutions for the required Abstract Schemes and achieve financial closure in order to make the execution possible within the stipulated timeline.

(g) With regard to introduction of norms for Emission of Sulphur Dioxide and Proposed Abstract Scheme, the petitioner has submitted that there was no applicable standard limiting emission of Sulphur Dioxide in flue gases, which was required to be considered/maintained by the petitioner before the enactment of the amendment Rules and the Plant and Machinery erected by the petitioner was well equipped with systems to control such parameters under prudent utility practices. However, MoEFCC vide its Notification dated 7.12.2015, has introduced norms for emission of $SO_2$ in flue gases and limited the same to 200 mg/$Nm^3$ for generating

units having capacity of 500 MW and above and commissioned between 1.1.2003 to 31.12.2016. The introduction of new parameters for emission of $SO_2$ amounts to 'Change in Law' in terms of the 2014 Tariff Regulations.

(h) The Boilers of the Maithon generating units are designed to fire domestic coal having about 0.2% Sulphur. However, the coal received by the petitioner at the site is of sub-optimal quality with a Sulphur content of about 0.44%. The present emission level is in the range of 647 to 1012 mg/$Nm^3$ at 6% $O_2$ and currently there is no equipment available in the project for $SO_2$ emission abatement. However, the Norm set by MoEFCC (i.e., 200 mg/$Nm^3$) is much more stringent than that presently maintained by the petitioner; especially by firing domestic coal with Sulphur content of about 0.44%, the petitioner will not be able to comply with the stringent Norm of 200 mg/$Nm^3$ as laid down by the MoEFCC unless specialized arrangement is made to control the Sulphur emission in the atmosphere. In this regard, the impact of MoEFCC Notification on emission of Sulphur Dioxide is as under:

| Pollutant | Maximum Operating value - As reported mg/$Nm^3$ | Maximum Corrected Value with 6% $O_2$ mg/$Nm^3$ | Allowable Limits as per MoEFCC Notification mg/$Nm^3$ |
|---|---|---|---|
| Sulphur Dioxide | 890 at 7.2% $O_2$ | 1012 | 200 |

(i) The FGD technology is a proven technology for Sulphur reduction. Considering the huge variation of Sulphur content of the coal received at Maithon Project with respect to the design Coal, Wet FGD System has been proposed for Maithon Project. The FGD Plant is expected to reduce the present emission level of 1191 mg/$Nm^3$ (calculated value considered for design of FGD based on 0.44% Sulphur in Coal) of SO2 to ≤200 mg/$Nm^3$considering about 83.2% efficiency. Further, the FGD

Plant would need about 110 $m^3$/hr of fresh water for Flue Gas Desulphurization process and it will have about 20 $m^3$/hr per FGD Plant as waste water reject. The waste water reject would be treated in the Reverse Osmosis ("***RO***") Plant for meeting Zero Liquid Discharge (***"ZLD"***) condition which is already under construction at the generating station. No additional water treatment facility is required. The Petitioner has proposed such RO Plant for meeting ZLD condition through the Tariff Petition No. 152/GT/2015 dated 01.06.2015 for the approval of the Commission which is under consideration of the Commission. Apart from the installation of specific plant and Machinery, the proposed FGD plant installation would also require modification of the existing electrical system and additional civil constructions. The FGD plant shall be connected to Unit Auxilliary Transformers (UAT).

(j) With regard to introduction of norms for Emission of Oxides of Nitrogen and Proposed Abstract Scheme, the petitioner has submitted that there was no applicable standard limiting emission of NOx in flue gases, which was required to be considered/maintained by the petitioner before the enactment of the amendment Rules. However, MoEFCC vide its amendment Rules introduced the norm for the generating units commissioned between the years 1.1.2003 to 31.12.2016 and prescribed a stringent limit of 300 mg/$Nm^3$. The norm of 300 mg/$Nm^3$ is much more stringent than that could be achieved without installing additional specialized facilities. The introduction of new parameters for emission of Nitrogen Oxide amounts to 'Change in Law' in terms of the 2014 Tariff Regulations. The design guarantee of Nitrogen Oxide is 880 mg/$Nm^3$ and actual observed Nitrogen Oxide emission level is in the range of 538 mg/$Nm^3$ at 7.8% $O_2$ to 753 mg/$Nm^3$ at 7.2% $O_2$, which is about 612 to 819 mg/$Nm^3$ at 6% $O_2$. Both the design and actual values exceed the above allowable limit and there is no NOx control equipment at Maithon

Project. Therefore, Nitrogen Oxide abatement measures are required to meet the norms laid down by the MoEFCC.

(k) The available methodology for reduction of NOx emission is the post-combustion controls which is expected to reduce the level of NOx emissions by converting the NOx formed during combustion into Nitrogen. Such technique introduces are agent into the flue gas stream to selectively react with the NOx. The reaction may be completed either with or without the use of a catalyst. In case of use of catalyst in the process, the technique is known as Selective Catalytic Reduction System ("SCR System") wherein Aqueous Ammonia is widely used as a reagent; and if the technique does not use any catalyst, it is known as the Selective Non-Catalytic Reduction System("SNCR System"). However, the SCR System is more effective than the SNCR System. Therefore, the SCR System is proposed for the Units of Maithon generating station in order to comply with the Norms of the amendment Rules. The SCR system shall also be connected to UAT and the electrical loads shall be supplied from the existing unit electrical Auxiliary Power supply system.

(l) The estimated cost of such proposed Abstract Schemes pertaining to FGD Plant and the SCR System (including Electrical System modification and Civil Foundations) required to reduce the $SO_2$ and NOx has been estimated at about Rs. 1949 crore (excluding IDC). Although the proposed timeline for commissioning of the Abstract Schemes is 30.11.2017 and efforts would be made to get the retrofits operational by the above target date. However, the actual completion of work would depend on a number of factors which are not exactly under the control/influence of the petitioner. Such factors include grant of in-principle approval

to the Abstract Scheme, availability of financial commitments from the Financial Institutions for such modifications followed by financial closure, ability of the potential contractors/suppliers to deliver and commission the facilities within the stipulated dates, availability of allowable shutdown of the generating units by the long-time Beneficiaries/RLDC's for such field activities considering similar requirements by a large number of generating stations in the same timeframe etc. Such possibility of delays may not allow the retrofit work to get completed within the stipulated timeline and force the petitioner to approach the MoEFCC for grant of extension of time and this Commission with more accurate estimates of IDC, etc.

(n) The capital expenditure requirement has been envisaged based on the present market rates and is, therefore, only a quick estimate of the capital expenditure requirement for the Abstract Schemes. Such estimates may differ from the actual investment made later towards such Abstract Schemes subject to more definite technical requirements and price variation. The IDC considered in the above computation has been estimated as per the proposed timeline for commissioning the necessary modifications at the generating station by 30.11.2017. Such IDC is indicative and the estimates of IDC may also undergo a subsequent revision with the completion of the abstract schemes.

(o) The petitioner has worked out the provisional impact on generation tariff (**"**Incremental Tariff**"**) of Maithon Project for the tariff period 2014-19 based on the capitalization phasing (including IDC).There would also be other cost implications on account of the proposed Abstract Schemes mainly pertaining to O&M expenses and Auxiliary Power Consumption etc. The O&M expenses for the proposed Abstract Schemes would increase on account of the running operation cost of the

consumables like Limestone Cost for the FGD Plant and Aqueous Ammonia Cost for the SCR System towards operation of the new facilities, costs towards disposal of byproducts and wastes of the FGD Plant such as Gypsum, etc. Accordingly, the cost of maintenance of spares and the service cost have been assumed at 20% (as per the provision of the 2014 Tariff Regulations) and 10% of the Base O&M Expenses respectively. The cost of capital spares and cost of disposal of byproducts and wastes of the FGD Plant in the proposed O & M expenses for Abstract Schemes has not been considered and the Water Charges at the present Rate has been assumed as **Rs 5.70/m$^3$**.

(p) The additional Auxiliary Power Consumption for the proposed modification per unit would be about 12.40 MW as estimated in the PFR, i.e. about 2.36% of power output and the impact on the Energy Charges Rate component of generation tariff for the generating station has been computed considering an Auxiliary Power Consumption of 8.11**%** which is 2.36% higher than the Normative Auxiliary Power Consumption at 5.75**%** applicable for the Project.

(q) Due to the possible impact of the proposed changes under the Abstract Schemes and the resultant reduction in net capacity being available for export of power from the generating station, there may be a need for relinquishing some of the Long-term Access obtained from the CTU. There would be a need to carry out consequential correction in the quantum of LTA granted, with no cost implications to the Petitioner/Long-term Beneficiaries through an appropriate Regulatory provision.

(r) Regulation 54 of the 2014 Tariff Regulations provides the judicial discretion to the Commission to relax the norms based on the circumstances of the

case. Therefore, the petitioner may consider extending the Deemed Plant Availability benefits to the Units of generating station during such shutdown period required for installation and commissioning of the SCR system by exercising power conferred to it in order to protect the recovery of Annual Fixed Charges in its entirety.

(s) If such environmental norms were not being issued by MoEFCC, the petitioner would have recovered the entire annual fixed charges under the provisions of the 2014 Tariff Regulations for the particular year by making the generating units available for the estimated shutdown period of 4 months. This is an exceptional scenario wherein the petitioner is forced to undertake the proposed Abstract Schemes in order to comply with the mandates stipulated in the Amendment Rules, 2015 issued by the MoEFCC. Therefore, it would meet the ends of justice if the Commission allows the Deemed Plant Availability for the generating station by exercising the power given under Regulation 54 (Power to Relax) of the 2014 Tariff Regulations. The Hon'ble APTEL in its judgment dated 25.3.2011 in the matter of Ratnagiri Gas & Power Private Ltd. vs CERC in Appeal No. 130 of 2009 has held that the Commission has the discretionary power to relax the norms of the Regulations under 2014 Tariff Regulations based on the merit and circumstances of the case in order to avoid potential hardship to any person concerned.

(t). The Amendment Rules, 2015 have been issued by MoEFCC in exercise of the powers conferred on it under Sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986). Such amendment of Environment (Protection) Rules, 1986 under an Indian Act squarely falls under the definition of "Change in Law" as stipulated in

2014 Tariff Regulations. Further, such Change in Law is an uncontrollable factor as stipulated in Regulation 12 (2) of 2014 Tariff Regulations.

6. Against the above background, the petitioner has filed the present petition with the following prayers:

"(a) Grant in-principle approval for the proposed Capital Cost (including IDC) of theAbstract Schemes pertaining to installation of Flue Gas De-Sulphurization Plant for reduction of SO2 and Installation of Selective Catalytic Reduction System for reduction of NOx in order to comply with the provisions of the Amendment Rules considering the same under Change in Law as per the provisions of CERC Tariff Regulations 2014;

(b) Approve the indicative Incremental Tariff on account of commissioning of suchAbstract Schemes and likely changes in the operational parameters of the Generating Units as a consequence of these schematic changes and allow the same to be recovered from the Beneficiaries;

(c) Approve the estimated increase in O&M Expenses and Auxiliary Power Consumption on account of commissioning of the proposed Abstract Schemes;

(d) Allow the Deemed Plant Availability during the period of shutdown of the Generating Units of Maithon Project in order to ensure the recovery of the Annual Fixed Charges in its entirety from the Beneficiaries by exercising its power under Regulation 54 of CERC Tariff Regulations 2014;

(e) Allow the Petitioner to seek requisite modifications in the granted LTA on account of reduction in the Net Capacity of Maithon Project due to increased Auxiliary Power Consumption;

(f) Allow the Petitioner to approach this Hon'ble Commission at its liberty to propose revised estimates of Capital Expenditure including IDC, Pre-Operative Expenses, IEDC and Design, Engineering & Project Management Cost; O&M Expenses required for installation and operation of the Abstract Schemes and impact on operational parameters and Generation Tariff of Maithon Project in order to obtain the final approval by the Hon'ble Commission;

(g) Condone any inadvertent omissions/errors/rounding-off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required in future;

(h) Pass such other Order/s, as this Hon'ble Commission may deem fit and proper,"

7. The petition was heard on 30.6.2016 on the maintainability of the petition.

**Analysis and Decision:**

8. We have considered the submissions of the petitioner and perused the documents on record. We now consider as to whether the prayer of the petitioner for in-principle approval for the Abstract Scheme of capital expenditure is maintainable. The petitioner has submitted that the Amendment Rules, 2015 have been issued by MoEFCC in exercise of the powers conferred on it by Sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986). Such amendment of Environment (Protection) Rules, 1986 under an Indian Act squarely falls under the definition of "Change in Law" as stipulated in 2014 Tariff Regulations. Further, such Change in Law is an uncontrollable factor for the petitioner as stipulated in Regulation 12 (2) of the 2014 Tariff Regulations. The petitioner has contended that from the harmonious reading of the provisions of the Regulations, the present proposal of the petitioner on Abstract Schemes can be classified under Regulation 14 (3) (ii) read with Regulations 3 (9) and 12 (2) of 2014 Tariff Regulations.

9. The Ministry of Environment Forest and Climate Change (MoEFCC) vide notification dated 7.12.2015 notified the Environment (Protection) Amendment Rules, 2015 amending/introducing in schedule I of the Environment (Protection) Rules, 1986, the standards for emission of environmental pollutants to be followed by the thermal power plants. As per the said notification, all existing thermal power plants are required to meet the modified/new norms within a period of two years from the date of the notification. In order to comply with the revised environmental norms as prescribed by the MoEFCC, the petitioner proposes to take up two Abstract Schemes, namely (i)

Installation of Flue Gas De-Sulphurization, (ii) Installation of Selective Catalytic Reduction.

10. Since, the 2014 Tariff Regulations do not provide for the grant of in-principle approval for the capital expenditure, the prayer of the petitioner for in-principle approval of the Abstract scheme of capital expenditure by relaxing the provisions of the tariff regulations through invoking Regulation 54 of 2014 Tariff Regulations, is not maintainable. In our view, since, the implementation of new norms in the existing and under construction thermal generating stations would require modification of their existing system and installation of new systems such as Retro-fitting of additional fields in ESP/replacement of ESP, etc. to meet Suspended Particulate Matter norms, installation of FGD system to control SOx and Selective Catalytic Reduction (SCR) systems for DeNox, the petitioner is directed to approach the Central Electricity Authority to decide specific optimum technology, associated cost and major issues to be faced in installation of different system like SCR, etc. The petitioner is also directed to take up the matter with the Ministry of Environment and Forest for phasing of the implementation of the different environmental measures. Accordingly, the petitioner is granted liberty to file appropriate petition at an appropriate stage based on approval of CEA and direction of MoEF which shall be dealt with in accordance with law.

11. With the above, the petition is disposed of.

| | | | |
|---|---|---|---|
| **Sd/-** | **sd/-** | **sd/-** | **sd/-** |
| **(Dr. M.K.Iyer)** | **(A.S. Bakshi)** | **(A. K. Singhal)** | **(Gireesh B. Pradhan)** |
| **Member** | **Member** | **Member** | **Chairperson** |



**// TRUE COPY //**

# ANNEXURE-P/3

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 152/MP/2019**

**Coram:**

**Shri P.K. Pujari, Chairperson**
**Dr. M.K. Iyer, Member**
**Shri I.S. Jha, Member**

**Date of Order: 11th November, 2019**

**In the matter of**

Petition under Regulations 11 and 29 of the CERC (Terms and Conditions of Tariff) Regulations, 2019 read with other relevant provisions and this Hon'ble Commission's directions in the Order dated 20.03.2017 in Petition no. 72/MP/2016.

**And**

**In the matter of**

Maithon Power Limited (MPL),
34, Sant Tukaram Road,
Carnac Bunder,
Mumbai-400009 **...Petitioner**

**Versus**

1. Tata Power Delhi Distribution Limited,
   NDPL House, Hudson Lane,
   Kingsway Camp, New Delhi-110009

2. Damodar Valley Corporation,
   DVC Headquarters, DVC Towers,
   VIP Road, Kolkata– 700054

3. West Bengal State Electricity Distribution Company Limited
   Vidhyut Bhavan (8th Floor), Bidhannagar,
   Block-DJ, Sector-II, Salt Lake,
   Kolkata – 700091

4. Kerala State Electricity Board Limited (KSEBL)
   Vydyuthi Bhavanam, Pattom,
   Thiruvananthapuram- 695004.

5. Tata Power Trading Company Limited
   Corporate Centre, A-Block,
   34, Sant Tukaram Road, Carnac Bunder,
   Mumbai-400006 **...Respondent**

**Parties present:**

Shri M. G. Ramachandran, Sr. Advocate, MPL
Ms. Pooja Priyadarshini, Advocate, MPL
Shri Nived V., Advocate, MPL
Shri Pankaj Prakash, MPL
Shri Nitin Kala, Advocate, TPDDL
Ms. Shefali Sobti, TPDDL

## ORDER

The petitioner is a generating company operating Maithon Right Bank Thermal Power Project, having installed capacity of 1050 MW (2x525MW) at Dhanbad, Jharkhand. The Respondents are distribution licensee and trading licensee buying electricity generated from above said thermal power station who have entered into Power Purchase Agreements ("PPA") or Power Sale Agreements ("PSA") with the petitioner.

2. On account of the Ministry of Environment, Forest and Climate Change ("the MoEFCC") notification dated 7th December,2015 *inter-alia* specified revised standards of emission applicable to thermal generating station ("revised emission standards"), the petitioner filed Petition no. 72/MP/2016 under CERC (Terms & Condition for Determination of Tariff) Regulations, 2014 ("the 2014 Tariff Regulations") which was disposed by the Commission on 20.3.2017 with the direction to approach Central Electricity Authority ("the CEA") with regard to optimum technology, phasing and deciding cost factors accordingly and liberty to approach the Commission thereafter. The petitioner approached the MoEFCC and CEA along with pre-feasibility study for FGD system. On 11.12.2017, the petitioner has received response of the Central Pollution Control Board (CPCB), MoEFCC with regard to timeline and on 8.1.2019, report of CEA detailing the suggestive technology and indicative cost. On the strength of these response, the petitioner filed this petition.

## Background

3. The short facts are as follows:

(a) The revised emission standards prescribed the limit of Water Consumption, Particulate Matter, Mercury, Sulphur dioxide and oxide of Nitrogen.

(b) In order to achieve the above limit, the petitioner envisaged the requirement of (i) installation of Flue Gas De-Sulphurization (FGD) Plant to meet the $SO_2$ norms, and (ii) installation of NOx abatement system along with associated Electrical System Modification and Civil Foundations to meet the norms. The petitioner has decided to install FGD Systems in Unit 1 & 2 of Maithon Thermal Power Plant for $SO_2$ limit.

(c) Vide order dated 20.3.2017, the Commission issued the directions to the petitioner to approach Central Electricity Authority (CEA) with regard to the specific optimum technology, associated cost and major issues to be faced in installation of revised environmental norms and MoEFCC for phasing the implementation of different environmental measures. The Commission has granted liberty to approach once the cost factors including technology, implementation schedule is finalized.

(d) On 6.4.2017, the petitioner approached MoEFCC and CEA for the necessary guidance along with Pre-feasibility study for FGD system. On 11.12.2017, in exercise of powers conferred under Section 5 of the Environment (Protection) Act, 1986, the Central Pollution Control Board, MoEFCC issued the following directions to MPL on time limit for complying with the revised $SO_2$ and NOx limits-

(i) That plant shall install/retrofit Electrostatic Precipitators (ESP) so as to comply PM emission limit immediately.

(ii) That plant shall install FGD by September 30, 2021 & June 30, 2022 in Unit 1 & 2 respectively 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.

(e) On 8.1.2019, CEA furnished its report detailing the "suggestive technology" and "indicative cost" for installation of FGD system at MPL's Project to comply with Amendment Rules. In this report, CEA has analysed the technologies, its advantages/disadvantages and recommendations.

(f) Considering the ensuing deadline prescribed by the MoEFCC for FGD installation as 30.9.2021 for Unit-1 and 30.6.2022 for Unit-2 vide its letter dated 11.12.2017 and longer gestation period for implementation of FGD, this Petition for FGD System is being preferred by the petitioner in first phase. The Petitioner craves leave to file separate petition for remaining requirement.

6. The main prayers of the Petitioner are as under:

(a) Admit the present petition;

(b) Declare the MoEFCC notification dated 7.12.2015 read with its letter dated 11.12.2017 as Change in Law for MPL;

(c) Grant in-principle approval to MPL to incur the expenditures (including Capex and Opex) as detailed under this Petition for meeting the revised emission norms in respect of $SO_2$;

(d) Approve the estimated total capital cost of Rs. 777.14 crores as proposed in the present petition, subject to truing up;

(e) Approve the parameters proposed in the present petition in relation to estimated increase in O&M Expenses, Operating Norms like Auxiliary Power Consumption and SHR, spares, water charges, landed cost of reagents, gypsum disposal cost etc. with corresponding increase in Capacity Charges and ECR as detailed above;

(f) Exclude the period of shutdown (required for installation of FGD) for the purposes of calculating the Availability of the Project and ensure full recovery of shortfall in AFC due to such shutdown;

(g) Allow the prayer of the Petitioner not to consider the increased ECR for MPL Project on account of FGD installation for preparation of stack of

merit order dispatch till all participating generators comply with the revised emission norms;

(h) Allow the Petitioner to (i) seek requisite modifications in the granted LTA on account of reduction in the Net Capacity of Maithon Project in phases by 1.15% (ii) Modification in formulae for Availability, ECR and PLF due to increased Auxiliary Power Consumption as detailed in the Petition;

(i) Grant liberty to the Petitioner to approach this Hon'ble Commission by way of separate petition(s) for remaining ECS which is not being proposed presently, but may be required to be installed in order to comply with the revised emission norms;

(j) Grant leave to the Petitioner to approach this Hon'ble Commission for determination of Supplementary tariff;

(k) Condone any inadvertent omissions/errors/rounding-off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required in future;

7. The Respondent No.4 has filed its reply vide affidavit dated 14.8.2019, the Respondent No.1 has filed its reply vide affidavit dated 9.8.2019. The Commission vide Record of Proceedings dated 20.8.2019 directed the petitioner to place on record tendering process. The petitioner has filed rejoinder and information sought by the Commission vide affidavit dated 19.8.2019 and 5.9.2019.

**Submissions of the Petitioner**

8. Vide affidavit dated 7.5.2019, the petitioner has made following submissions:

a) The petitioner has proposed expenditures to be incurred to comply with the $SO_2$ norms prescribed under the Environment (Protection) Amendment Rules, 2015 dated 7.12.2015 issued by the Ministry of Environment, Forest and Climatic Change (MoEF&CC). The petitioner is presently operating its Generating Station at Maithon within the new limits prescribed by the Amendment Rules in relation to Water Consumption, Particulate Matter and Mercury. However, in order to fully comply with the Amendment Rules, the petitioner shall have to comply with the following norms prescribed for $SO_2$ and NOx:

| Installation of TPP | Sulphur Dioxide ($SO_2$) | Oxides of Nitrogen ($NO_x$) |
|---|---|---|
| TPPs (Units) installed between 01.01.2003 & 31.12.2016 | 200 mg/$Nm^3$ for ≥500 MW | 300 mg/$Nm^3$ |

b) This can be achieved by way of- (i) installation of Flue Gas De-Sulphurization (FGD) Plant to meet the $SO_2$ norms, and (ii) installation of NOx abatement system along with associated Electrical System Modification and Civil Foundations to meet the norms. The compliance of the Amendment Rules entails not only a capital cost but also has an impact on O&M expenses and, further, some of the operational parameters would impact the available capacity or energy and resultant costs of generation from the Project.

c) The present Petition is confined to the installation of FGD Systems in Unit 1 & 2 of Maithon Thermal Power Plant for $SO_2$ abatement only. The ensuing deadline prescribed by the MoEFCC for FGD installation as 30.9.2021 for Unit-1 and 30.6.2022 for Unit-2 vide its letter dated 11.12.2017 and longer gestation period for implementation of FGD, this Petition for FGD System is being submitted in first phase..

(d) CEA in its report dated 8.1.2019has analysed the technologies as under:

Dry/semi dry process (Spray dry & CFB Process):

I. Dry FGD having lower $S0_2$ reduction efficiency compared to Wet Limestone based FGD, may not be effective against high sulphur coal requiring a $S0_2$ reduction. In dry FGD, the high cost & high purity reagent (slacked/quick lime) and installation/replacement of additional fabric filter bags significantly increases the OPEX. Moreover, fabric filter needs to be installed post scrubber to achieve the specified SPM level and to re-utilize the un-reacted reagent, which in-turn increase the capital costs. Further, installation of Dry FGD with bag filters downstream of the scrubber may not be feasible considering the space constraints. Acid resistant Lining for chimney is required in dry FGD also, as some percentage of $S0_2$ would be converted to $S0_3$ which would condense locally on stack walls at temperatures below

acid dew point. Moreover, space constraints in the layout might restrict installation of new scrubber with fabric filters having considerable size and footprints.

Ammonia Process:

I. Large quantity of anhydrous ammonia would be required by the Ammonia based FGD for $S0_2$ abatement. Precautions should be taken as Anhydrous ammonia forms a flammable explosive vapour at normal atmospheric temperature and must be transported and stored under high pressure (280 PSIG) in anti-corrosive storage spheres of stainless steel. Further, precautions need to be taken for transportation, handling and storage of huge volume of reagent. Although, this specific technology is using hazardous reagent yet it is a proven technology and successfully operational. However, at present, there are not many vendors available for this technology.

Wet lime Stone& Sorbent Polymer Catalyst based:

Considering the amount of sulphur dioxide level to be removed to meet the new standards, and the large volume of flue gas to be treated, wet limestone based FGD and "Sorbent Catalytic convertor "are more reliable and preferable.

Wet lime stone based FGD being Low cost reagent, marketable by-product, cost effectiveness, reliability, proven nature of the technology and fuel flexibility make it a preferable technology choice for this plant.

Similarly, SPC being a new technology with no reagent requirement and salable byproduct (i.e. Sulphuric Acid) additionally having very less space requirement and low APC is also a promising option in terms of OPEX and CAPEX cost optimization."

"TECHNOLOGY "

The Wet FGD with either "Lime Stone" or "Ammonia based" is suitable for this plant. Both type of FGD have about 60% of common equipment. The nearest source of reagent is about 110 km (The actual source of reagent mat be selected during the detail engineering based on availability, cost, quality and logistics by MPL.) Additionally source of limestone stone should be chosen with life cycle cost analysis comparing "Costs related to Limestone supply to the site V/s Optimum Salability of By-product i.e. Gypsum. In case of Ammonia based FGD, utmost care of handling ammonia is required.

Additionally, Sorbent Polymer Catalyst (SPC) based technology may also be explored for FGD at Maithon Power Plant. This technology has advantage of no reagent cost (not consumable), saleable by-product (Diluted sulphuric acid), small space foot print, moderate operating expenditure and low Auxiliary Power Consumption compared to Wet FGD-Lime stone and Ammonia based technologies."

(e) CEA has detailed the pros and cons for the "suggestive technologies" and has finally recommended that Wet FGD with either "Lime Stone" or "Ammonia based" is suitable for this plant, vesting the discretion with MPL to select the appropriate technology for the Project. Notably, CEA has given indicative cost for Capital Expenditure (CAPEX) and Operational Expenditure (OPEX) only for the Limestone Based Wet FGD technology.

(f) As regards cost estimation, CEA in the Report has indicated the CAPEX as Rs. 0.42 Crore/MW excluding Taxes, Duties, IDC, IEDC, insurance and financing charges. While providing the 'indicative' cost, the CEA has clarified that the cost indicated by it should be used as guiding factor, however, the actual cost of retrofitting the FGD system will be discovered through competitive bidding. It has further advised MPL to complete the procurement process for FGD expeditiously in order to meet the target for installation of FGD system.

(g) The plant and machinery erected by MPL at the Project was well equipped with systems to control emission parameters under prudent utility practices and the conditions under Environmental Clearance (EC), Consent to Establish (CTE) and Consents to Operate (CTOs). However, through the notification of Amendment Rules, MoEF&CC has introduced/amended the norms for emission of $SO_2$ in flue gases and limited the same to 200 mg/$Nm^3$ for generating Units having capacity of 500 MW and above and commissioned between 01.01.2003 to 31.12.2016. As evident, the introduction of new

parameters for emission of $SO_2$ amounts to 'Change in Law' in terms of the CERC (Terms and Conditions of Tariff) Regulations, 2019 ("the 2019 Tariff Regulations").

(h) A conjoint reading of the Regulations 11, 26 and 29 of the Tariff Regulations, 2019 reveals that the Petitioner herein is required to obtain prior approval of this Commission before undertaking the expenditures for meeting the revised emission standards. While Regulation 29(1) specifically mandates filing a Petition before Commission for undertaking additional capital expenditure for compliance of the revised emissions standards, Regulation 29(4) requires filing of a Petition for determination of tariff due to the implementation of revised emission standards for such additional capital expenditure actually incurred or projected to be incurred.

(i) In view of the applicable provisions of Tariff Regulations, 2019, Electricity Act, 2003 and in compliance of this Commission's directions in the Order dated 20.03.2017 in Petition no. 72/MP/2016, the Petitioner has filed the present Petition seeking in-principle approval of the expenditures proposed to be incurred by MPL in order to comply with the $SO_2$ norms prescribed under the Environment (Protection) Amendment Rules, 2015 dated 07.12.2015 issued by the MoEF&CC, approval for undertaking the additional capital expenditure on account of the revised emission standards and seeking further clarity and adjudication on the incidental/associated issues related to financial/operational costs/parameters. The Petitioner shall be filing a separate and detailed petition for determination of supplementary tariff in near future based on the proposed and/or approved costs/parameters and any other relevant factor/information for such determination.

(j) It was concluded that Limestone Based Wet Flue Gas Desulphurization is the most suitable technology for MPL due to Low

cost reagent, Easy reagent availability, Marketable byproduct, Large reference list, Fuel flexibility, Ease of retrofit and Proven and most common technology.

(k) The entire scope of work has been divided into 4 packages, namely, (a) FGD main system package [Package 1]; (b) Electrical power supply arrangement [Package 2]; (c) FGD waste water treatment system [Package 3]; and (d) Fire-fighting system [Package 4]. It is most humbly submitted that MPL has resorted to competitive bidding process to award the two critical packages i.e. Packages 1 & 2. It is further submitted that Packages 3 and 4 i.e. 'FGD waste water treatment system' and 'Fire-fighting system' are ancillary in nature and would be firmed up after detailed engineering of Package 1 and Package 2.

(l) As discovered in the bidding process and with further estimations regarding the ancillary/associated costs, the total cost towards the proposed Limestone based FGD implementation is estimated to be about Rs 777.14 Crores including Interest During Construction ("IDC") i.e. Rs. 0.74 Crore/MW, which is subject to true-up upon completion based on actually incurred cost.

(m) The break-up of proposed Capital Expenditure for the Wet Limestone based FGD system for 2x525 Units of MPL estimated on the basis of bidding results of two main packages (FGD Main System and Electrical System) is as follows:

| Sr. No. | Description | MPL Capex Estimate | MPL Capex Estimate | CEA Report Indicative Cost |
|---|---|---|---|---|
| **1** | **Total FGD EPC Base Cost** | **Rs Cr** | **RsCr/MW** | **RsCr/MW** |
| 1.1 | FGD main package | 430.50 | 0.410 | 0.244 |
| 1.2 | Electrical power supply package | 29.00 | 0.028 | 0.085 |
| 1.3 | Waste water treatment | 5.00 | 0.005 | |

| Sr. No. | Description | MPL Capex Estimate | MPL Capex Estimate | CEA Report Indicative Cost |
|---|---|---|---|---|
| 1.4 | Fire protection and detection | 5.00 | 0.005 | |
| 1.5 | Spares (@ 2.5% of all above)[A] | - | | 0.008 |
| 2 | Total FGD EPC Basic Cost | 469.50 | 0.447 | 0.337 |
| 3 | Engg, Project Management and Contingency reserve | 34.33 | 0.033 | 0.025 |
| **4** | **Total Base Cost of the project** | **503.83** | **0.480** | 0.362 |
| 5 | GST (@18% of base cost) | 90.69 | 0.086 | |
| 6 | IEDC (Pre-operative Expenses,Consultancy Services, Financing Charges etc.) and Insurance | 12.60 | 0.012 | |
| 7 | Total EPC Cost incl Tax & Contingencies | 607.12 | 0.578 | 0.362 |
| 8.1 | Opportunity Cost related to U1 | 49.87 | 0.047 | 0.029 |
| 8.2 | Opportunity Cost related to U2 | 52.37 | 0.050 | 0.029 |
| 9 | Total EPC Cost incl Tax, Contingencies and Opportunity Cost | 709.36 | 0.676 | 0.420 |
| 10 | IDC (@10.5% Interest) | 67.78 | 0.065 | |
| **11** | **Total Capital Expenditure including IDC** | **777.14** | **0.740** | 0.420 |

(n) It may be seen from the above comparison that the proposed cost of the FGD system is higher than indicative cost given by CEA mainly on account of higher cost discovered through open competitive bidding process. It may also be noted that CEA also has categorically stated that its cost estimate is only indicative and actual cost has to be discovered through open competitive bidding. In fact, in the subsequent notification dated 21.02.2019, while specifying general norms for Wet Limestone based FGD system, CEA itself has given an increased Base Cost norm of Rs. 0.405 Crore/MW against the approval of Rs. 0.362 Crore/MW in the MPL Report dated 08.01.2019. Even in this notification, CEA has stated that the cost may vary on account of various project/site specific factors. Thus, CEA also recognises the fact that retrofitting of FGD system is highly dependent on specifics of each project e.g. type and quality of coal,

original technical design and layout of equipment at project site, availability of space, location of project and reagent chosen, perception/assessment of different constraints by market players while bidding etc. and, hence, it is not possible to give unique or exact estimate for the project. Thus, any comparison of retrofitted Project Costs for different stations is not of much significance when each case has to be dealt with on its own specifics and particularly when the discovery of cost is through market based mechanism of open competitive bidding, which is the accepted mechanism specified in the Tariff Regulations, 2019.

(o) In view of the above justifications, the Petitioner submits that the Additional Capital Expenditure of Rs. 777.14 Crore (or Rs. 0.74 Crore/MW) proposed by Petitioner is reasonable and Commission may be pleased to grant in-principle approval for incurring this expenditure and allowing its consequential impact in tariff and related issues for supply of power to beneficiaries including scheduling.

(p) As brought out above, the Petitioner shall be filing a separate Petition for determination of Supplementary Tariff on account of Capital Expenditure for installation of emission control system in line with the requirement of Regulation 29(4) of the Tariff Regulations, 2019. Tariff Regulations, 2019 stipulate that commission shall come out separately with regulations on determination of Supplementary Tariff. However, pending issuance of such regulations, filing of such Petition and determination of tariff thereon would require determination of various parameters and decision on various issues associated with such installation on case to case basis.

(q) Apart from an impact on capacity charges the petitioner has submitted the detailed reasons for other cost implications mainly pertaining to O&M Expenses and Auxiliary Power Consumption, reduction in SHR etc. The O&M Expenses would increase on account of the running Operation Cost of the consumables like Limestone Cost for the FGD Plant towards operation of the new facilities, costs towards disposal of by-products and

wastes of the FGD Plant such as Gypsum etc. Further, the Maintenance Spares and services of contracted/outsourced manpower would also be required to ensure the availability and reliability of the system. All these will lead to increase in Annual Fixed Cost and, hence, Capacity Charges over rest of the life of the Project. The existing per unit capacity charge at normative PLF of 85% will increase not only because of increase in Annual Fixed Cost but also due to increase in Auxiliary Consumption due to FGD system. The existing energy charge rate will also increase due to additional reagent cost and increase in auxiliary consumption. Accordingly, the Petitioner submits proposals for such parameters and issues, which may also be addressed and decided by Commission.

(r) Clause (5) of the Regulation 3 of the Tariff Regulations, 2019 stipulates that any increase in auxiliary energy consumption on account of compliance to revised emission standards shall be considered separately. In line with CEA Report dated 8.1.2019, the Petitioner proposes to consider Auxiliary Consumption of 1.15% for FGD system in addition to the Normative Auxiliary Consumption of 6.25% applicable as per Tariff Regulations, 2019 for MPL Project. Further, since the said Auxiliary Consumption of 1.15% is based on projected levels of operation of plant (PLF) and FGD system it is likely that that the same may be higher or lower than this projection based on actual level of operation of plant and FGD system. When the generating units operate at part load, there may be some reduction in absolute value (in kWh) of Auxiliary Consumption, however, its reduction in terms of percentage will not be in the same proportion and hence percentage Auxiliary Consumption at part load may be higher than that at TMCR condition. The CEA recommendation to Commission on Operation norms for thermal generating stations dated 10.12.18, indicates additional% of Auxiliary Consumption vis a vis change in plant loading, e.g. the recommendation report permits upto 1.8% additional Auxiliary Consumption for Plant Loading going down upto 40% over and above the normative Auxiliary Consumption. However, similar

proportions of additional Auxiliary Consumption norms cannot be applied for FGD plants because of the nature of operation of FGD system which requires continuous operation of certain major power consuming equipment and, hence, may lead to higher proportion of additional Auxiliary Consumption.

**Submissions of the Respondent No.4 (KSEBL)**

9. The Respondent No.4, vide affidavit dated 14.8.2019, has mainly submitted the following:

a) The proposed capital expenditure is considerably higher than the CEA benchmark cost. A comparison of the individual cost elements show that the FGD main package cost proposed by the petitioner i.e. Rs. 0.41 Cr/MW is very high compared to the CEA benchmark cost i.e. Rs. 0.244 Cr/MW.

b) CEA at Chapter 10 of its Report has reiterated that the cost of retrofitting FGD should be discovered through a competitive bidding process. The bidding process adopted by the petitioner is through invitation of Expression of Interest published in National Edition of Financial Express. The Petitioner failed to invite International Competitive bids for such a big investment projects, when CEA has specifically stated in its report that open competitive bidding has to be carried out in consultation with representatives of DVC for implementing the project. The Petitioner has not provided any valid justification substantiating the huge increase over the benchmark cost when the report of CEA indicating the benchmark cost was specifically prepared for the Maithon Thermal Power Plant duly taking into consideration the plant specific features. It is humbly requested that the cost of FGD main package may be limited to the benchmark cost fixed by CEA.

c) The Petitioner has claimed an amount of Rs. 0.047 Cr and Rs. 0.050 Cr as opportunity cost related to Unit-1 and Unit-2 respectively. In this matter it is submitted that as per the report of CEA, Power plants are advised to

minimize the interconnection time by taking suitable measure so that the "Opportunity cost" associated with plant shutdown may have least impact on Tariff. It is requested that as recommended by CEA, interconnection of FGD with Main plant may be planned during annual overhauling of Units so that opportunity cost can be minimized.

d) Commission may kindly carryout prudence check on the claims of the petitioner to minimize the impact of the capital expenditure on the beneficiaries.

e) The petitioner has claimed Additional O&M on Manpower/Spare cost at 5% of total capex based on the estimated Manpower and Maintenance spare required to operate and maintain the FGD plant for 2×525 MW thermal power plant. It is submitted that the claim of the petitioner is on high side. As per the report of CEA, O &M expense are fixed as 2% of the capex. It is requested that O&M cost may be allowed only within the upper ceiling limits fixed by CEA.

f) The Petitioner has claimed as escalation of 5% over the price of 2018-19 for arriving at the cost of limestone and cost of sale of disposal of by-product. The escalation rates are on the higher side and it is requested that the escalation may be allowed only after prudence check.

g) The Petitioner has further requested that even after installation of FGD for MOD purposes the ECR formula may be used taking both Limestone Consumption and Landed price of Limestone as zero and auxiliary Consumption as per approved norms without installation of FGD and till all FGDs are installed, the merit order may be run without any reference to additional ECR. The request of the petitioner is illegal and may be rejected. MOD without taking the actual variable cost of the plant duly considering the cost of FGD also will jeopardize the power purchase cost of the

beneficiaries and affects the interest of the consumers. The request of the petitioner is against the provisions of the Electricity Act, 2003 and the existing Regulations.

**Submissions of the Respondent No.1 (TPDDL)**

10. The Respondent No.1, vide affidavit dated 9.8.2019, has mainly submitted the following:

(a) The Petitioner, in the earlier petition bearing No.72/MP/2016, inter-alia had sought the approval of *"Grant in-principle approval for the proposed Capital Cost.* This prayer was partially allowed by this Commission by order dated 20.03.2017, wherein this Commission held that the Amendment to the Environment (Protection) Rules, 1986 falls under the definition of change in law. In view of the order dated 20.03.2017, passed by this Commission in petition bearing No.72/MP/2016, prayer (b) of the present petition, seeking a declaration that the MoEF notification dated 07.12.2015 is change in law, is rendered infructuous.

(b) CEA suggested that SPC based technology may also be explored for FGD, however the Petitioner has opted for the Wet lime-stone based FGD as the best suited technology for de-sulphurization of flue gas for MPL plant. While the Respondent No.1 does not oppose the same as being considered by the Petitioner, in light of the CEA recommendations, it is requested that this Commission may consider if Sorbent Polymer Catalyst Technology (SPC) would be more efficient and economical for the Petitioner's plant. In either case, the Respondent No.1 would like to suggest use of more economical and efficient technology, considering the FGD installation in a time bound manner.

(c) The cost towards capital expenditure, ought not to be disbursed as a one-time payment, it should be released in tranches, depending upon the progress of the installation and commissioning of FGD. The same would help in avoiding tariff shock for the Respondent No.1's end consumers.

(d) As in the case of capital expenditure, the operational expenditure should also not be disbursed as a one-time payment, instead should be released in tranches. The same would help in avoiding tariff shock for the Respondent No.1's end consumers.

(e) In compliance with MoEF, directing installation of FGD, by 30.09.2021 and 30.06.2022 in Unit 1 & 2 respectively at the MPL plant, it is proposed that the installation, testing and commissioning of the FGD system should be done during the period the plant is under shut down on account of annual overhauling, so that the beneficiaries are not burdened with extra costs, in addition to the fixed costs. In fact, CEA in its report stated that opportunity cost can be reduced if commissioning of the FGD is planned during the annual overhauling of the units. It is also proposed that MPL should take the consent of the beneficiaries before shutting down the plant at the time of retrofit, and in a time bound manner so that shutdown during the high demand periods can be avoided.

(f) Thermal Power plants will schedule power taking into consideration the total cost of production, which would be inclusive of the costs incurred for installation of FGD. As a result, plants which have complied with the $SO_2$ emission norms, (which would schedule power at a higher rate) would be at a disadvantage in the merit order scheduling in comparison to the plants which have not complied with the $SO_2$ emission norms. The Petitioner in para 53 of the present petition has proposed that for MPL after installation of FGD, for Merit Order Dispatch purposes, the ECR formula may be used taking both lime stone consumption and landed price of limestone as zero, and auxiliary consumption as per approved norms, without installation of FGD, and till all FGDs are installed the merit order may run without reference to additional ECR. Accordingly, it is prayed that this Commission may provide a clarification as regards merit order scheduling considering enhanced tariff of generating plants which have installed FGD and those which have not installed FGDs. It is

suggested that a common guideline/ policy on merit order scheduling be considered which can be followed by thermal plants across the country without having the possibility of being backed down on account of having higher ECR due to FGD expense. Further, the FGD installation plants would become compliant to environmental norms, however, at the same time would have an inherent risk of being backed down on account of higher ECR after installation of FGD compared to ECR prior to FGD installation.

(g) The Petitioner in para 6 of the petition has submitted that it will file a separate petition(s) for meeting further compliances, including NOx abatement system. The Respondent No.1 shall file an appropriate response as and when the Petitioner files petition/s for meeting further compliances.

**Rejoinder of the Petitioner to the reply of KSEBL**

11. The Petitioner has filed its rejoinder vide affidavit dated 19.8.2019 in respect of Reply of the Respondent No.4 as under:

a) That the CEA has clarified that the costs incorporated in its Report are merely “indicative”. It is clarified that as set out in detail under the Petition, the prices claimed under the petition are discovered in the bidding process carried out by the Petitioner.

b) That the report of CEA was specifically prepared for the Maithon Thermal Power Plant duly taking into consideration the plant specific features. In this regard, it is pertinent to note that this question is no longer res-integra and, in the Statement of Reasons (SOR) to the CERC (Terms and Conditions of Tariff) Regulations, 2014. As evident from the SOR, International Competitive Bidding (ICB) is not mandatory and it is the discretion of the Petitioner to decide the bidding process to be followed. The Petitioner has taken every possible step to ensure widest participation and has, in fact, received responses from multiple bidders. In respect of the objections

raised by KSEB with respect to strict adherence to the CEA Report and capping of costs, it is reiterated that this prayer of KSEB is against the spirit of the CEA Report itself as the CEA costs are merely indicative and not conclusive.

c) That the Petitioner would endeavour to minimize the period of installation by synchronizing it with scheduled maintenance for each Unit during the year to the extent possible.

d) Against the very spirit of the CEA Report itself, KSEB is requesting for capping of costs as per CEA Report. Further, the parameters proposed in the present petition in relation to estimated increase in O&M Expenses, Auxiliary Power Consumption, spares, Water charges, landed cost of reagents, etc. are with detailed justifications on its assumptions.

e) That full recovery of shortfall in AFC due to such shutdown may kindly be ensured as such shutdown is compulsorily required to comply with change in law of revised environmental norms.

f) That the proposal of the Petitioner on MOD is in-line with the proposed recommendations regarding incentives to Thermal Power Plants for early installation of Pollution Control Equipment given by the Central Electricity Authority vide letter dated 26.09.2018.

**Rejoinder of the Petitioner to the reply of TPDDL**

12. The Petitioner has filed its rejoinder vide affidavit dated 05.9.2019 and has mainly submitted the following:

a) CEA in its report dated 08.01.2019 carried out a comparative analysis of the various technologies. As is discernible from the above, CEA itself in its recommendation report has suggested that the removal efficiency of SPC based technology is lower than that of Wet Limestone based FGD technology. In addition to same it is also noteworthy that, SPC based technology is currently installed in

addition to Wet limestone based FGD, downstream of absorbers as per experience list shared by SPC technology owner. Till now SPC based technology has not been installed on standalone basis for removal of SOx. Following additional requirement envisaged:

a. Additional chemical (NaOH/ lime) handling is required for dilution of bi-product. Market price of neutralizing agent i.e. NaOH is comparable with lime.

b. Additional clarified water required to be generated through desalination process in case of coastal area plants where sea water is used as primary source. This will add to the CAPEX. Generation of Sulphuric Acid in the process which is hazardous. Disposal/ selling of $H_2SO_4$ generated as bi-product is difficult.

(b) MPL in its petition has already submitted that it would endeavor to minimize the period of installation by synchronizing the same with the scheduled maintenance of Unit during the year to the extent possible. However, it is humbly reiterated that the actual installation period and the resultant shut down period would depend upon the actual progress with reference to the plan evolved in consultation with the stakeholders. It is humbly submitted that the same maybe considered in a reasonable manner keeping in mind the fact that FGD Technology is still in its nascent stages of implementation and no clear records exist to conclusively deduce the time involved.

**Analysis and Decision**

13. In the light of the above submission of the petitioner, Respondents and documents placed on records, the following issues arise for consideration in the present petition:

Issue No.1: Whether the MoEFCC notification dated 7.12.2015 read with Central Pollution Control Board (CPCB) letter dated 11.12.2017 be declared as Change in Law and in principle approval of capital expenditure can

be granted to the petitioner for incurring proposed expenditure towards installation of FGD?

Issue No.2: Whether additional O&M expenses and the relaxation in other operating norms due to installation of FGD are admissible as claimed by the petitioner? Also can period of shutdown be excluded for calculation of availability for recovery of fixed charges?

Issue No.3: Whether any direction can be issued with regard to Merit Order Dispatch and modification of LTA due to reduction in Net Capacity due to installation of ECS?

14. We deal with the above issues in subsequent paragraphs.

**Issue No. 1: Whether the MoEFCC notification dated 7.12.2015 read with CPCB letter dated 11.12.2017 be declared as Change in Law and in principle approval of capital expenditure can be granted to the petitioner for incurring proposed expenditure towards installation of FGD?**

15. The petitioner has prayed that the MoEFCC notification dated 7.12.2015 read with letter dated 11.12.2017 as Change in Law for the petitioner.The Respondent No.1 has submitted that in view of the order dated 20.3.2017, passed by this Commission in petition bearingNo.72/MP/2016 *qua* the approval of Grant in-principle approval for the proposed Capital Cost, the prayer of the petitioner seeking a declaration that the MoEF notification dated 7.12.2015 is change in law, is rendered in-fructuous. Relevant operating para of the above said order is extracted below:

> "8. We have considered the submissions of the petitioner and perused the documents on record. We now consider as to whether the prayer of the petitioner for in-principle approval for the Abstract Scheme of capital expenditure is maintainable. The petitioner has submitted that the Amendment Rules, 2015 have been issued by MoEFCC in exercise of the powers conferred on it by Sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986). Such amendment of Environment (Protection) Rules, 1986 under an Indian Act squarely falls under the definition of "Change in Law" as stipulated in 2014 Tariff Regulations. Further, such Change in Law is an uncontrollable factor for the petitioner as stipulated in Regulation 12 (2) of the 2014 Tariff Regulations**.** The petitioner has

contended that from the harmonious reading of the provisions of the Regulations, the present proposal of the petitioner on Abstract Schemes can be classified under Regulation 14 (3) (ii) read with Regulations 3 (9) and 12 (2) of 2014 Tariff Regulations.

9. The Ministry of Environment Forest and Climate Change (MoEFCC) vide notification dated 7.12.2015 notified the Environment (Protection) Amendment Rules, 2015 amending/introducing in schedule I of the Environment (Protection) Rules, 1986, the standards for emission of environmental pollutants to be followed by the thermal power plants. As per the said notification, all existing thermal power plants are required to meet the modified/new norms within a period of two years from the date of the notification. In order to comply with the revised environmental norms as prescribed by the MoEFCC, the petitioner proposes to take up two Abstract Schemes, namely (i) Installation of Flue Gas De-Sulphurization, (ii) Installation of Selective Catalytic Reduction.

10. Since, the 2014 Tariff Regulations do not provide for the grant of in-principle approval for the capital expenditure, the prayer of the petitioner for in-principle approval of the Abstract scheme of capital expenditure by relaxing the provisions of the tariff regulations through invoking Regulation 54 of 2014 Tariff Regulations, is not maintainable. In our view, since, the implementation of new norms in the existing and under construction thermal generating stations would require modification of their existing system and installation of new systems such as Retro-fitting of additional fields in ESP/replacement of ESP, etc. to meet Suspended Particulate Matter norms, installation of FGD system to control SOx and Selective Catalytic Reduction (SCR) systems for DeNox, the petitioner is directed to approach the Central Electricity Authority to decide specific optimum technology, associated cost and major issues to be faced in installation of different system like SCR, etc. The petitioner is also directed to take up the matter with the Ministry of Environment and Forest for phasing of the implementation of the different environmental measures. Accordingly, the petitioner is granted liberty to file appropriate petition at an appropriate stage based on approval of CEA and direction of MoEF which shall be dealt with in accordance with law."

It is observed from the above that the Commission vide order dated 20.3.2017 in petition no. 72/MP/2016, allowed the MoEF&CC Amendment Rules, 2015 to be Change in Law under the 2014 Tariff Regulation for the generating station of the Petitioner.

16. In the instant petition also, the petitioner has prayed that expenditure on meeting new environmental norms may be allowed under "Change in Law". Considering the fact that the expenditure shall be incurred during next tariff period commencing from 1.4.2019, prayer of the petitioner is to be dealt under the provisions of 2019, Tariff Regulations pertaining to additional capital expenditure. As per Regulation 29 of 2019, Tariff Regulations, the additional capital expenditure to be incurred on account of revised emission standards has been

recognized separately. In light of the above explicit Regulation pertaining to the additional capital expenditure on new environment standards, it is not required to invoke the provision of Change in Law as per the 2019, Tariff Regulations. Accordingly, prayer (b) of the petitioner disposed in terms of above.

17. On the issue of in-principle approval of capital expenditure, the petitioner has submitted that conjoint reading of the Regulations 11, 26 and 29 of the Tariff Regulations, 2019 reveals that the Petitioner herein is required to obtain prior approval of this Commission before undertaking the expenditures for meeting the revised emission standards. While clause (1) of the Regulation 29 specifically mandates filing a Petition before Commission for undertaking additional capital expenditure for compliance of the revised emissions standards, clause (4) of Regulation 29 requires filing of a Petition for determination of tariff due to the implementation of revised emission standards for such additional capital expenditure actually incurred or projected to be incurred.

18. The proposed expenditure is to be incurred within the tariff period from 1.4.2019 to 31.3.2024. The admissibility of said expenditure is to be dealt within the 2019 Tariff Regulations. Regulation 11 of the Tariff Regulations, 2019 in regard to in-principle approval is as under:

> "11. **In-principle approval in specific circumstances:** The generating company or the transmission licensee undertaking any additional capitalization on account of Change in law events or force majeure conditions may file petition for in-principle approval for incurring such expenditure after prior notice to the beneficiaries or the long term customers, as the case may be, along with underlying assumptions, estimates and justification for such expenditure if the estimated expenditure exceeds 10% of the admitted capital cost of the projects or Rs. 100 Crore, whichever is lower."

The petitioner has already informed the beneficiaries about the estimated expenditure which exceeds the limit of Rs.100 crore specified under the Regulation. As such, the proposed expenditure on FGD is squarely covered within the Regulation, 11 of the 2019, Tariff Regulations. Accordingly, it is held that

proposed expenditure qualifies for the In-principle approval, subject to further scrutiny of the proposed expenditure.

19. Now, we proceed to examine the admissibility of proposed expenditure. CEA vide letter dated 8.1.2019 has made recommendations for the generating station (MRBTPP). Relevant Para of the CEA report is extracted below:

> ***"TECHNOLOGY:***
> *The Wet FGD with either "Lime Stone" or "Ammonia based" is suitable for this plant. Both type of FGD have about 60% of common equipment. The nearest source of reagent is about 110km (The actual sources of reagent may be selected during the detail engineering based on availability, cost, quality and logistics by MPL). Additionally Source of limestone should be chosen with life cycle cost analysis comparing "Costs related to Limestone supply to the site Vis Optimum Salability of By-product i.e. Gypsum. In case of Ammonia based FGD, utmost care for handling ammonia is required.*
>
> *Additionally, Sorbent Polymer Catalyst (SPC) based technology may also be explored for FGD at Maithon Power Plant. This technology has advantage of no reagent cost (not consumable), saleable by-product (Diluted sulphuric acid), small space foot print, moderate operating expenditure and low Auxiliary Power consumption compared to Wet FGD-Lime stone and Ammonia based technologies."*

20. The Petitioner has opted for the Wet Limestone based FGD system as the most rational from the list of options in the CEA recommendations. It is observed from the submission that the Petitioner has resorted to a two-part open competitive bidding process for the major packages i.e. "FGD main package" and "Electrical power supply package" which are the major contributors towards hard cost of the project. The break-up of capital expenditure for the Wet Limestone based FGD system for MPL generating station estimated on the basis of bidding results compared to CEA recommended cost is as under:-

| Sr. No. | Description | MPL Capex Estimate | MPL Capex Estimate | CEA Report Indicative Cost |
|---|---|---|---|---|
| **1** | **Total FGD EPC Base Cost** | **Rs Cr** | **RsCr/MW** | **RsCr/MW** |
| 1.1 | FGD main package | 430.50 | 0.410 | 0.244 |
| 1.2 | Electrical power supply package | 29.00 | 0.028 | 0.085 |
| 1.3 | Waste water treatment | 5.00 | 0.005 | |
| 1.4 | Fire protection and detection | 5.00 | 0.005 | |
| 1.5 | Spares (@ 2.5% of all above)[A] | - | | 0.008 |

| Sr. No. | Description | MPL Capex Estimate | MPL Capex Estimate | CEA Report Indicative Cost |
|---|---|---|---|---|
| 2 | Total FGD EPC Basic Cost | 469.50 | 0.447 | 0.337 |
| 3 | Engg, Project Management and Contingency reserve | 34.33 | 0.033 | 0.025 |
| **4** | **Total Base Cost of the project** | **503.83** | **0.480** | 0.362 |
| 5 | GST (@18% of base cost) | 90.69 | 0.086 | |
| 6 | IEDC (Pre-operative Expenses,Consultancy Services, Financing Charges etc.) and Insurance | 12.60 | 0.012 | |
| 7 | Total EPC Cost incl Tax & Contingencies | 607.12 | 0.578 | 0.362 |
| 8.1 | Opportunity Cost related to Unit 1 | 49.87 | 0.047 | 0.029 |
| 8.2 | Opportunity Cost related to Unit 2 | 52.37 | 0.050 | 0.029 |
| 9 | Total EPC Cost incl Tax, Contingencies and Opportunity Cost | 709.36 | 0.676 | 0.420 |
| 10 | IDC (@10.5% Interest) | 67.78 | 0.065 | |
| **11** | **Total Capital Expenditure including IDC** | **777.14** | **0.740** | 0.420 |

21. As regards the estimated expenditure, it is observed that there is difference of Rs. 0.32 Cr/MW (Rs. 0.740- Rs.0.420) between the estimate of CEA and the petitioner. CEA has indicated that its estimates are indicative only and the petitioner shall go for open competitive bidding. This difference is due to the fact that CEA has not considered cost towards “Fire protection and detection” package, IDC, IEDC and GST@18% considered by the petitioner and also attributable to difference in cost towards “FGD main package” and “Opportunity cost.”

22. It is observed that for the two packages i.e. “FGD main package” and “Electrical power supply package”, cost discovered through competitive bidding by the petitioner is Rs. 0.438 Crore /MW, which is higher by Rs. 0.101 Crore/MW in comparison to CEA cost of Rs.0.337Crore /MW, including spares. This difference of Rs 0.101 Crore/MW gets reduced to Rs. 0.058 Crore/MW compared to the revised base cost considered by CEA in its report dated 21.02.2019. CEA, in its report dated 21.02.2019, has increased the base cost of FGD system from Rs.

0.362 crore/MW to Rs. 0.405 Crore/ MW based on the prices discovered by various thermal plants.

23. Considering the above facts and recognising that the cost considered by CEA is indicative only and the cost claimed by the petitioner has been discovered based on open competitive bidding, Commission allows the cost claimed by the petitioner for the two packages i.e. “FGD main package” and “Electrical power supply package”.

24. Regarding cost claimed by the petitioner for “Waste Water Treatment” and “Fire Protection and Detection”, CEA in its report has not considered the same. Commission is of the view that these packages shall be in place to meet the statutory requirements and safe operation of the plant. Accordingly, Commission allows the expenditure towards these packages subject to truing up. Regarding cost claimed by the petitioner towards Engineering, Project Management and Contingency reserve, Commission is of the view that expenditure on same is controllable and as such is being restricted to CEA’s recommended indicative cost.

25. CEA has allowed Opportunity cost towards shutdown period of one month. It is, however, observed that while petitioner’s claim is also based on the shutdown period of one month, the opportunity cost claimed by it is on the higher side. Petitioner has clarified in the petition that its claim is based on shut down period of 30 days and AFC allowed by the Commission for the year 2018-19 escalated by 5% per year to arrive at the AFC for the years 2021-22 and 2022-23 i.e. the deadline of installation of FGD.

26. CEA in its report has opined that shutdown period can be reduced if interconnection of FGD with main plant is planned during the annual overhauling of units. Petitioner has also submitted that it would try to minimize the period of shutdown by synchronizing the interconnection of FGD with annual overhaul.

However, the same would depend upon on actual progress of work and consultation with stakeholders on shutdown near the time of installation.

27. The Commission is of the view that beneficiaries and the petitioner shall plan the interconnection of FGD with main plant by synchronizing it with annual overhaul. Therefore, the Commission is not considering the opportunity cost at this stage. However, the same would be considered during truing up based on actual number of days of shutdown and actual AFC for the years 2021-22 and 2022-23 after prudence check to the effect that petitioner has tried to synchronize the interconnection of FGD with Annual overhaul and has consulted the beneficiaries in this respect.

28. The cost other than base cost such as IDC, IEDC, Taxes etc. are consequential and verifiable cost based on relevant records and their admissibility will be dealt accordingly at the time of fixation of tariff.

29. In view of the above, the Commission accords In-principle approval to the petitioner for following cost:

| Sr. No. | Description | MPL Capex Estimate | MPL Capex Estimate | Capex allowed |
|---|---|---|---|---|
| **1** | **Total FGD EPC Base Cost** | **Rs Cr** | **RsCr/MW** | **RsCr/MW** |
| 1.1 | FGD main package | 430.50 | 0.410 | 0.410 |
| 1.2 | Electrical power supply package | 29.00 | 0.028 | 0.028 |
| 1.3 | Waste water treatment | 5.00 | 0.005 | 0.005 |
| 1.4 | Fire protection and detection | 5.00 | 0.005 | 0.005 |
| 1.5 | Spares (@ 2.5% of all above)[A] | - | | - |
| 2 | Total FGD EPC Basic Cost | 469.50 | 0.447 | 0.447 |
| 3 | Engg, Project Management and Contingency reserve | 34.33 | 0.033 | 0.025 |
| **4** | **Total Base Cost of the project** | **503.83** | **0.480** | **0.472** |

The Commission allows the petitioner to claim IDC, IEDC, Taxes and opportunity cost at actuals which may be allowed after prudence check in accordance with the 2019, Tariff Regulations.

30. Accordingly, prayer (c) and (d) of the petitioner are disposed in terms of above.

**Issue No. 2: Whether additional O&M expenses and the relaxation in other operating norms due to installation of FGD are admissible as claimed by the petitioner? Also can period of shutdown be excluded for calculation of availability for recovery of fixed charges?**

31.The petitioner has claimed increase in O&M Expenses, Operating Norms like Auxiliary Power Consumption and Station Heat Rate, spares, water charges, landed cost of reagents, gypsum disposal cost etc. with corresponding increase in Capacity Charges and ECR. The petitioner has also prayed to exclude the period of shutdown (required for installation of FGD) for the purposes of calculating the Availability of the Project and ensure full recovery of shortfall in AFC due to such shutdown.

**Additional O&M expenses**

32. The petitioner has submitted the report of CEA in support of proposing additional O&M as under:

| Description (For 2X525 MW) | Only for FGD implementation (₹ in Crore) | Per MW/Year cost (₹) | Remarks |
|---|---|---|---|
| Annual Reagent Cost @ TPH. 2000INR/Ton | 17.87 | 170190 | Lime stone purity>90% PLF-85% |
| Annual Clarified Water Consumption@ 50 TPH,8 INR/Ton | 0.29 | 2760 | PLF-85% |
| Annual COST OF APC- @ 1.15%of installed capacity, 1.95INR/UNIT | 16.77 | 159714 | PLF-85% |

| Description (For 2X525 MW) | Only for FGD implementation (₹ in Crore) | Per MW/Year cost (₹) | Remarks |
|---|---|---|---|
| Annual Fixed O&M Cost (O&M manpower, Services, Maint. Etc.) | 8.82 | 84000 | 2% of Total FGD CAPEX |
| Annual By-Product handling Cost @ 377 INR Per MT | 7.6 | 72380 | Considering disposal at 30-60KM |
| LESS-Annual by product Sale @2000 INR Per MT | (-)28.6 | (-)272381 | |
| ANNUAL OPEX FOR 2X525 MW Unit | ₹ 20.75 Cr | | |
| ANNUAL OPEX PER MW | ₹ 216666 | | |

It may be observed that the additional O&M expenses at 85% PLF works out to about Rs 2.16 Lakh/MW.

33. In this regard, we have examined the provision of the Tariff Regulations, 2019. As per Sub-Clause (7) of Clause (1) of Regulation 35-

> *"the additional operation and maintenance expenses on account of implementation of revised emission standards shall be notified separately provided that till the norms are notified, the Commission shall decide the additional O&M expenses on case to case basis''*

Further, the extract of Clause (2) of the Regulation 14 and Clause (4) of the Regulation 29 of Tariff Regulations, 2019 in regard to supplementary charges for meeting the revised MoEF&CC norms is as under:

> *"14 (2). The supplementary capacity charges for additional capitalization and supplementary energy charges, on account of implementation of revised emission standards in existing generating station or new generating station, as the case may be, shall be determined by the Commission separately.*
>
> *29(4). After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff."*

34. The Commission has dealt similar matter in case of Vindhyachal V project in order dated 31.8.2016 in petition no 234/GT/2015. It was held that the additional O&M expenses will be considered after installation of FGD. Relevant Para is extracted below:

> "*39. As regards, the submissions of the petitioner for additional O&M of 10% of O&M norms for expenditure towards the installation of FGD system, we are of the considered view that there are no defined norms/ standards relating O&M expenses of FGD system at present. Also, the FGD system has not yet been installed. Accordingly, the additional O&M expenses on account of installation of FGD are not allowed at present. We direct the petitioner to submit the O&M expenses relating to FGD system on actual basis at the time of truing-up. In case the norms for O&M expenses for FGD is notified prior to truing-up, same will be considered in the case of the petitioner."*

35. The norms for additional O&M expenses would be finalized by CERC. Accordingly, the claim of the petitioner for allowing O&M expenditure is not being considered at this stage. We direct the petitioner to submit the O&M expenses relating to FGD system on actual basis at the time of filling the petition for determination of tariff on commissioning of the FGD system.

**Operational norms**:

36. The petitioner has submitted that Regulation 3(5) of the Tariff Regulations, 2019 stipulates that any increase in auxiliary energy consumption on account of compliance to revised emission standards shall be considered separately. The Petitioner has proposed additional Auxiliary Consumption of 1.15% for FGD system in addition to the Normative Auxiliary Consumption of 6.25% applicable as per Tariff Regulations, 2019 as per CEA Report dated 8.1.2019 at projected higher levels of operation of plant (PLF) and FGD system. When the generating units operate at part load, there may be some reduction in absolute value (in kWh) of Auxiliary Consumption. However, reduction in terms of percentage will not be in the same proportion and hence percentage Auxiliary Consumption at part load may be higher than that at TMCR condition. The petitioner submits that CEA recommendation to Commission on Operation norms for thermal generating stations dated 10.12.18, indicates additional Auxiliary Consumption *vis-a-vis* change in plant loading, e.g. the recommendation report permits upto 1.8%

additional Auxiliary Consumption for Plant Loading going down upto 40% over and above the normative Auxiliary Consumption.

37. The Commission is yet to specify operational norms in respect of systems to be commissioned for meeting environmental norms. In absence of notified operational norms, Commission allows increased auxiliary consumption of 1.15% as recommended by CEA subject to revision based on the norms specified by the Commission, if any. As regards increased power consumption by FGD at part loads, the Commission observes that norms are specified corresponding to units running at NAPAF or above. The increase in operation norms due to part loads is accounted for in the compensation mechanism specified in the grid code.

38. As regards the exclusion of the shutdown period for calculation of availability for recovery of fixed charges, Commission has already taken a view that the generator in consultation with beneficiaries would plan to synchronize the interconnection of FGD with the annual overhaul so as to minimize the additional downtime required for FGD interconnection. Accordingly, Petitioner is directed to schedule the shutdown period prudently to avoid the impact on availability. However, if shutdown period for FGD integration exceeds the period of annual overhauling, the petitioner has liberty to claim the same at the time of tariff determination. Accordingly, prayer (e) and (f) of the petitioner is disposed in terms of above.

**Issue No. 3: Whether any direction can be issued with regard to Merit Order Dispatch and modification of LTA due to reduction in Net Capacity due to installation of ECS?**

39. The dispatch of the generating station depends on the requisition by the beneficiaries of such generating station. All the beneficiaries may not be purchasing the electricity from same generating stations. The merit order for dispatch is worked out by each beneficiary based on the principle of marginal cost. The marginal cost of each beneficiary is different and therefore, the merit order for

dispatch will also be different. In this context, the Ministry of Power, on 30.7.2019, issued direction u/s 107 of the Act, to address this issue as under:

> *"3. The Phasing of the implementation of the new environmental norms has been reviewed. Accordingly, it is directed that the impact of operating costs incurred in the implementation of new Environmental Norms shall not be considered for Merit Order Despatch of Coal Based Thermal Power Stations till 31.12.2022. For this purpose, CERC shall advise a methodology of supplementary tariff determination separately from normal tariff so that installation of FGD/other ECS has no bearing on the merit order dispatch till 31.12.2022."*

40. As per Clause (2) of the Regulation 14 of the 2019 Tariff Regulations, the Commission has already specified the regulatory framework for determination of supplementary tariff inter-alia provides supplementary capacity charges and supplementary energy charges. This regulation is effective for 2019-24 tariff period. The Commission will determine this supplementary tariff on submission of application by the petitioner after installation of FGD. As such, state/beneficiaries may decide merit order dispatch while scheduling the plants. Accordingly, prayer (g) of the petitioner is disposed in terms of above.

41. The Petitioner in the instant petition has prayed for requisite modification in the LTA granted on account of reduction in the Net Capacity of the generating station due to increase in Auxiliary Consumption in regard to FGD installation. It is observed that the reduction of LTA capacity is governed as per their provision of LTA Agreement and the CERC (Connectivity, Long term Access and Medium Term Open Access) Regulations, 2009 and subsequent amendment thereof. The Petitioner has to invoke the provision of LTA and connectivity regulations for any reduction of LTA in accordance with Law. Further, in Petition no. 92/MP/2015 dated 08.03.2019, the Commission has clarified as under:

> *"150….the Commission is of the view that relinquishment on account of auxiliary consumption and overload capacity shall not require payment of compensation payable towards such relinquishment."*

In view of the above, the Petitioner may seek appropriate remedy in case the Petitioner relinquishes LTA due to additional APC. Accordingly, prayer (h) of the petitioner is disposed in terms of above.

42. Petition No. 152/MP/2019 is disposed of in terms of above.

| | | |
|---|---|---|
| **Sd/-** | **Sd/** | **Sd/-** |
| **(I.S. Jha)** | **(Dr. M. K. Iyer)** | **(P. K. Pujari)** |
| **Member** | **Member** | **Chairperson** |



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रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99

# भारत का राजपत्र
# The Gazette of India

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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 603] नई दिल्ली, सोमवार, सितम्बर 5, 2022/भाद्र 14, 1944
No. 603] NEW DELHI, MONDAY, SEPTEMBER 5, 2022/BHADRA 14, 1944

## पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

## अधिसूचना

नई दिल्ली, 5 सितम्बर, 2022

**सा.का.नि. 682(अ).**—केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3, धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् :-

1. (1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण) दूसरा संशोधन नियम, 2022 है।

(2) ये राजपत्र में उनके प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 की अनुसूची 1 के क्रम सं. 25 में, "*(i) सारणी 1" के स्थान पर निम्नलिखित रखा जाएगा, अर्थात् :--

सारणी-1

| क्रम सं. | प्रवर्ग | अवस्थान/क्षेत्र | अनुपालन के लिए समय-सीमा (निवृत्त न होने वाली इकाईयां) | | अनुपालन से छूट के लिए इकाईयों को निवृत्त करने की अंतिम तारीख | |
|---|---|---|---|---|---|---|
| | | | $SO_2$ उत्सर्जन से भिन्न पैरामीटर | $SO_2$ उत्सर्जन | $SO_2$ उत्सर्जन से भिन्न पैरामीटर | $SO_2$ उत्सर्जन |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1. | प्रवर्ग क | राष्ट्रीय राजधानी क्षेत्र या 10 लाख से | 31 दिसंबर, | 31 दिसंबर, | 31 दिसंबर, | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | अधिक जनसंख्या वाले शहरों[1] की दस किलोमीटर की परिधि के भीतर । | 2022 तक | 2024 तक | 2022 तक | 31 दिसंबर, 2027 तक |
| 2. | प्रवर्ग ख | गंभीर रूप से प्रदूषित क्षेत्रों[1] की या गैर-प्राप्ति शहरों[2] की दस किलोमीटर के अर्धव्यास के भीतर | 31 दिसंबर, 2023 तक | 31 दिसंबर, 2025 तक | 31 दिसंबर, 2025 तक | |
| 3. | प्रवर्ग ग | प्रवर्ग क और ख में सम्मिलित से भिन्न | 31 दिसंबर, 2024 तक | 31 दिसंबर, 2026 तक | 31 दिसंबर, 2025 तक | |

1 भारत की 2011 की जनगणना के अनुसार

2 केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा यथा-परिभाषित ।

3. "'(ii)" के स्थान पर निम्नलिखित रखा जाएगा, अर्थात् :--

'(ii)(क) सारणी 1 के स्तंभ (6) में यथा-विनिर्दिष्ट तारीख से पूर्व निवृत्त होने के लिए घोषित तापीय विद्युत संयंत्र से, ऐसे संयंत्रों द्वारा केंद्रीय प्रदूषण नियंत्रण बोर्ड और केंद्रीय विद्युत प्राधिकरण को ऐसे संयंत्र द्वारा निवृत्त होने के आधार पर छूट के लिए वचनबंध प्रस्तुत करने की दशा में $SO_2$ उत्सर्जन से भिन्न पैरामीटर के लिए विनिर्दिष्ट मानकों को पूरा करने की अपेक्षा नहीं होगी:

परंतु ऐसे संयंत्रों पर सारणी 1 के स्तंभ (4) में यथा-विनिर्दिष्ट तारीख से उनके द्वारा वचनबंध में यथा-विनिर्दिष्ट तारीख से आगे जारी रहता है, उनके प्रचालन की दशा में जनित विद्युत की प्रति इकाई पर 0.40 रुपए की दर से पर्यावरण प्रतिकर उदग्रहित किया जाएगा;

(ii)(ख) सारणी 1 के स्तंभ (7) में यथा-विनिर्दिष्ट तारीख से पूर्व निवृत्त् होने के लिए घोषित तापीय विद्युत संयंत्र से, ऐसे संयंत्रों द्वारा केंद्रीय प्रदूषण नियंत्रण बोर्ड और केंद्रीय विद्युत प्राधिकरण को ऐसे संयंत्र द्वारा निवृत्त होने के आधार पर छूट के लिए वचनबंध प्रस्तुत करने की दशा में $SO_2$ उत्सर्जनों से भिन्न विनिर्दिष्ट मानकों को पूरा करने की अपेक्षा नहीं होगी:

परंतु ऐसे संयंत्रों पर सारणी 1 के स्तंभ (5) में यथा-विनिर्दिष्ट तारीख से उनके द्वारा वचनबंध में यथा विनिर्दिष्ट तारीख से आगे जारी रहता है, उनके प्रचालन की दशा में जनित विद्युत की प्रति इकाई पर 0.40 रुपए की दर से पर्यावरण प्रतिकर उदग्रहित किया जाएगा;'

4. "'(iii)" के स्थान पर निम्नलिखित रखा जाएगा, अर्थात्:--

"(iii) सारणी 1 के स्तंभ (4) और स्तंभ (5) में यथा-विनिर्दिष्ट तारीख के पश्चात् निवृत्त न होने वाले तापीय विद्युत संयंत्रों पर सारणी-2 में विनिर्दिष्ट दरों के अनुसार, पर्यावरण प्रतिकर उदग्रहित किया जाएगा, अर्थात्:--

सारणी-2

| समय-सीमा से आगे अननुपालन प्रचालन | पर्यावरण प्रतिकर (प्रति इकाई जनित विद्युत) |
|---|---|
| 0-180 दिन | 0.20 |
| 181-365 दिन | 0.30 |
| 366 दिन और उससे आगे | 0.40" |

[फा. सं. क्यू-15017/40/2007-सीपीडब्ल्यू]

नरेश पाल गंगवार, अपर सचिव

टिप्पण : मूल नियम, भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (i) में संख्यांक का.आ. 844(अ), तारीख 19 नवंबर, 1986 द्वारा प्रकाशित किए गए थे और उनका अंतिम संशोधन अधिसूचना संख्यांक सा.का.नि. 143(अ), तारीख 22 फरवरी, 2022 द्वारा किया गया ।

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

### NOTIFICATION

New Delhi, the 5th September, 2022

**G.S.R. 682(E).**—In exercise of the powers conferred by sections 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. (1) These rules may be called the Environment (Protection) Second Amendment Rules, 2022.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule – I, in serial number 25 for "* (i) Table 1" the following shall be substituted, namely: -

**Table-I**

| Sl. No. | Category | Location/area | Timelines for compliance (Non-retiring units) | | Last date for retirement of units for exemption from compliance | |
|---|---|---|---|---|---|---|
| | | | parameters other than $SO_2$ emissions | $SO_2$ emissions | parameters other than $SO_2$ emissions | $SO_2$ emissions |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1 | Category A | With 10 km radius of National Capital Region or cities having million plus population[1]. | Up to 31st December 2022 | Up to 31st December 2024 | Up to 31st December 2022 | Up to 31st December 2027 |
| 2 | Category B | With 10 km radius of Critically Polluted Areas[2] or Non-attainment cities[2] | Up to 31st December 2023 | Up to 31st December 2025 | Up to 31st December 2025 | |
| 3 | Category C | Other than those included in category A and B | Up to 31st December 2024 | Up to 31st December 2026 | Up to 31st December 2025 | |

[1] As per 2011 census of India.

[2] as defined by CPCB.

3. For "* (ii)" the following shall be substituted, namely: -

'(ii) (a) The thermal power plant declared to retire before the date as specified in column (6) of Table-I shall not be required to meet the specified norms for parameters other than $SO_2$ emissions in case such plants submit an undertaking to CPCB and CEA for exemption on ground of retirement of such plant:

Provided that such plants shall be levied environment compensation from the dates as specified in column (4) of table –I, at the rate of rupees 0.40 per unit electricity generated in case their operation is continued beyond the date as specified in the undertaking;

(ii) (b) The thermal power plant declared to retire before the date as specified in column (7) of Table-I shall not be required to meet the specified norms for $SO_2$ emissions in case such plants submit an undertaking to CPCB and CEA for exemption on ground of retirement of such plant:

Provided that such plants shall be levied environment compensation from the dates as specified in column (5) of table –I, at the rate of rupees 0.40 per unit electricity generated in case their operation is continued beyond the date as specified in the undertaking;'

4. For "* (iii)" the following shall be substituted, namely: -

"(iii) there shall be levied environment compensation on the non-retiring thermal power plants, after the date as specified in column (4) and (5) of Table-I, as per the rates specified in the Table-II, namely: -

**Table-II**

| Non-Compliant operation beyond the Timeline | Environmental Compensation (Rs. per unit electricity generated) |
|---|---|
| 0-180 days | 0.20 |
| 181-365 days | 0.30 |
| 366 days and beyond | 0.40" |

[F. No. Q-15017/40/2007-CPW]

NARESH PAL GANGWAR, Addl. Secy.

**Note :** The principle rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) vide number S.O. 844(E), dated the 19th November, 1986 and lastly amended vide notification G.S.R. 143(E), dated the 22nd February, 2022.

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MANOJ KUMAR VERMA

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**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 606/MP/2020**

**Coram:**

**Shri I. S. Jha, Member**
**Shri Arun Goyal, Member**
**Shri P.K. Singh, Member**

**Date of Order: 16.12.2022**

**In the matter of**

Petition under Regulations 11, 26 and 29 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 read with other relevant provisions and Commission's directions in the order dated 20.3.2017 in Petition No. 72/MP/2016.

**And**

**In the matter of**

Maithon Power Limited (MPL),
34, Sant Tukaram Road,
Carnac Bunder, Mumbai-400009 **...Petitioner**

**Versus**

1. Tata Power Delhi Distribution Limited,
   NDPL House, Hudson Lane,
   Kingsway Camp, New Delhi – 110009.

2. Damodar Valley Corporation,
   Headquarters, DVC Towers, VIP
   Road, Kolkata– 700054.

3. West Bengal State Electricity Distribution Company Limited,
   Vidhyut Bhavan (8th Floor), Bidhan Nagar, Block-DJ, Sector-II,
   Salt Lake, Kolkata – 700091.

4. Kerala State Electricity Board Limited (KSEBL),
   Vydyuthi Bhavanam, Pattom, Thiruvananthapuram – 695004.

5. Tata Power Trading Company Limited Corporate Centre,
   A-Block, 34, Sant Tukaram Road,
   Carnac Bunder, Mumbai – 400006.

6. Central Electricity Authority
   Sewa Bhawan, R.K. Puram, Sector-1,
   New Delhi – 110066. **...Respondents**

**For Petitioner:** Shri Anand Kumar Shrivastava, Advocate, MPL
Shri Shivam Sinha, Advocate, MPL
Shri Chetan Saxena, Advocate, MPL
Shri Pankaj Prakash, MPL
Shri Dhilip Kumar, MPL

**For Respondents:** None

**ORDER**

Maithon Power Limited (MPL) has filed the present petition for in-principle approval of the expenditure proposed to be incurred by MPL in order to comply with the NOx norms prescribed by Ministry of Environment, Forest and Climatic Change ("MoEFCC"), vide its notification dated 7.12.2015 ("MoEFCC 2015 Notification"), under the Environment (Protection) Amendment Rules, 2015 ("Amendment Rules") amending/ introducing certain emission norms which are to be complied with by all the thermal power plants (TPP's) operating within the country.

2. The Petitioner has made the following prayers:

a. *"Admit the present petition;*

b. *Grant in-principle approval to the Petitioner to incur the expenditures (including Capex and Opex) (depending upon the finalization of the emission parameter) as detailed under this Petition for meeting the revised emission norms in respect of NOx;*

c. *Approve the estimated capital cost of Rs 198.37 Crores for meeting the Nox norm of 300 mg/Nm3 subject to true up / actual cost incurred or alternatively, grant liberty to the Petitioner to approach this Hon'ble Commission to file separate Petition with firmed up cost in case 300 mg/Nm3 norm is retained by the MoEF&CC;*

d. *Approve the estimated total capital cost of Rs. 51.47 crores for meeting the NOx norm of 450 mg/Nm3 (subject to true-up based on prudency check);*

e. *Approve the parameters proposed in the present petition in relation to estimated increase in O&M Expenses, Operating Norms like Auxiliary Power Consumption and SHR, spares, water charges, landed cost of reagents (solid urea prills), cost etc. with corresponding increase in Capacity Charges and ECR as detail above;*

f. *Exclude the period of shutdown (required for installation of NOx abatement system) for the purposes of calculating the Availability of the Project to the extent it cannot be not synchronized with annual shutdown or allow opportunity cost to this extent and ensure full recovery of shortfall in AFC due to such shutdown;*

g. *Allow the prayer of the Petitioner not to consider the increased ECR for the Petitioner's Project on account of DeNOx installation for preparation of stack of merit order dispatch till all participating generators comply with the revised emission norms but allow increased ECR to be recovered in billing;*

h. *Allow the Petitioner to (i) seek requisite modifications in the granted LTA on account of reduction in the Net Capacity of Project (ii) Modification in formulae for Availability, ECR and PLF due to increased Auxiliary Power Consumption due to proposed ECS installation;*

i. *Grant leave to the Petitioner to approach this Hon'ble Commission for determination of Supplementary tariff for De-NOx System at appropriate stage;*

j. *Grant liberty to the Petitioner to approach this Hon'ble Commission by way of separate petition(s) for remaining ECS, if any, which is not being proposed presently, but may be required to be installed in order to comply with the revised emission norms;*

k. *Condone any inadvertent omissions/errors/rounding-off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required in future;"*

**Background**

3. The background of the instant petition is as follows:

a) The Petitioner is a Joint Venture between the Tata Power Company Ltd. ("Tata Power") and Damodar Valley Corporation ("DVC") wherein Tata Power has 74% shareholding and DVC has with 26 % shareholding of MPL.

b) The Petitioner has set up Maithon Right Bank Thermal Power Project, ("MRBTPP /Project") having installed capacity of 1050 MW (2x525 MW) at Dhanbad, Jharkhand and operating the same. The COD of unit I and II are 1.9.2011 and 24.7.2012, respectively.

c) The Petitioner had contracted the entire Installed Capacity of the Project by entering into Power Purchase Agreements ("PPA") with Respondents No. 1 to 4 i.e. Tata Power Delhi Distribution Limited ("TPDDL"), DVC, West Bengal State Electricity Distribution Company Ltd ("WBSEDCL") and Kerala State Electricity Board Limited ("KSEBL") and Power Sale Agreements ("PSA") with Respondent No. 5 i.e. Tata Power Trading Company Limited Corporate Centre.

d) In exercise of the powers conferred under sections 6 and 25 of the Environment

(Protection) Act, 1986, (hereinafter referred to as "the 1986 Act"), MoEF&CC vide its Notification No. S.O. 3305(E) dated 7.12.2015 has amended the Environment (Protection) Rules, 1986 introducing revised standards for emission to be followed by all existing and new TPPs. As per the MoEFCC Notification, all TPPs were mandatorily required to comply with the revised standards within a period of two years from the date of the MoEFCC Notification. The said Amendment Rules had (a) Revised emission parameters of Particulate Matter (b) Introduced new parameters qua Sulphur Dioxide ("$SO_2$"), Oxides of Nitrogen ("NOx") and Mercury (c) All Thermal Power Plants with Once Through Cooling ("OTC") shall install Cooling Towers and (d) Introduced a limit to the amount of water to be used by TPPs. The amended norms prescribed by the MoEFCC Notification are as follows:

| ***Sr. No*** | ***Industry*** | ***Parameter*** | ***Standard*** |
|---|---|---|---|
| *1* | *2* | *3* | *4* |
| ***"5A."*** | ***Thermal Power Plant (Water consumption limit)*** | ***Water consumption*** | ***I.*** *All Plants with Once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption up to maximum of 3.5$m^3$/MW/hr within a period of two years from the date of publication of this notification.*<br>***II.*** *All existing CT-based plants reduce specific water consumption up to maximum of 3.5$m^3$/MW/hr within a period of two years from the date of publication of this notification.*<br>***III.*** *New Plants to be installed after 1st January 2017 shall have to meet specific water consumption upto maximum of 3.0 $m^3$/MW/hr and achieve zero waste water discharge.* |
| ***"25."*** | ***Thermal Power Plant*** | ***TPPs (Units) installed before 31st December, 2003**** | |

| | | | |
|---|---|---|---|
| | | *Particulate matter* | *100 mg/ $Nm^3$* |
| | | *Sulphur Dioxide ($So_2$)* | *600 mg/$Nm^3$ (Units Smaller than 500 MW capacity units) 200 mg/$Nm^3$ (for units having capacity of 500 MW and above)* |
| | | *Oxides of Nitrogen* | *600 mg/ $Nm^3$* |
| | | *Mercury (Hg)* | *0.03 mg/$Nm^3$ (for units having capacity of 500 MW and above)* |
| | | ***TPPs (units) installed after [1st January, 2004]#, upto 31st December, 2016*** | |
| | | *Particular Matter* | *50 mg/$Nm^3$* |
| | | *Sulphur Dioxide ($SO_2$)* | *600 mg/$Nm^3$ (Units smaller than 500 MW capacity units) 200 mg/$Nm^3$ (for units having capacity of 500 MW and above)* |
| | | *Oxides of Nitrogen (NOx)* | *300 mg/$Nm^3$* |
| | | *Mercury (Hg)* | *0.03 mg/$Nm^3$* |
| | | ***TPPs (units) to be installed from 1st January, 2017***** | |
| | | *Particular Matter* | *30 mg/$Nm^3$* |
| | | *Sulphur Dioxide ($SO_2$)* | *100 mg/$Nm^3$* |
| | | *Oxides of Nitrogen (NOx)* | *100 mg/$Nm^3$* |
| | | *Mercury (Hg)* | *0.03 mg/$Nm^3$* |

*TPPs (units) shall meet the limits within two years from date of publication of this notification.*
***Includes all the TPPs (units) which have been accorded environmental clearance and are under construction".*
*# amended vide Gazette Notification No.590 dated 7.3.2016*
*publication of this notification.*
***Includes all the TPPs (units) which have been accorded environmental clearance and are under construction".*
*# amended vide Gazette Notification No.590 dated 7.3.2016*

e) The Petitioner filed Petition No. 72/MP/2016 before the Commission seeking in-principle approval for implementation of Emission Control System (ECS) for abatement of $SO_2$ and NOx. The Commission vide order dated 20.3.2017 disposed of the said petition and directed the Petitioner to approach CEA and MoEF&CC for suitable technology and timelines for implementation. To expedite the implementation of new environmental norms, the Petitioner separated the process of approval for $SO_2$ abatement technology from NOx abatement technology Subsequently, the Petitioner filed petition No. Petition No. 152/MP/2019 for

implementation of $SO_2$ norms. As regards NOx, CEA conveyed to the Petitioner that a consensus has been reached between EPCA, Ministry of Power (MoP), Central Pollution Control Board (CPCB), CEA, NTPC and MoEF&CC to revise the NOx norms from 300 mg/$Nm^3$ to 450 mg/$Nm^3$ for TPP's installed between 1.1.2004 to 31.12.2016. However, the same was not notified at the time of the filing of present petition by the Petitioner.

f) Accordingly, the instant petition has been filed with the technologies and their cost for meeting the norm of 450 mg/$Nm^3$ as well as 300 mg/$Nm^3$ along with the impact on operational parameters such as Heat Rate, Auxiliary Consumption etc., which will affect the tariff.

**Submissions of the Petitioner**

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

a) The Petitioner has submitted that at present the Project is operated as per the new limits specified by the Amendment Rules in relation to Water Consumption, Particulate Matter and Mercury. However, the norms specified for $SO_2$ (200 mg/$Nm^3$) and NOx (300 mg/$Nm^3$) has to be complied with and the same can be met by way of (a) installation of Flue Gas De-Sulphurization ("FGD") Plant to meet the $SO_2$ norms and (b) installation of NOx abatement system along with associated Electrical System Modification (ESM) and Civil Foundations.

b) Accordingly, Petitioner had filed a Petition No. 72/MP/2016 seeking in-principle approval for the expenditure proposed to be incurred for complying with above $SO_2$ and $NO_x$ norms. The Commission vide order dated 20.3.2017 directed the Petitioner to approach CEA with regard to optimum technology, associated cost, major issues to be faced in installation of revised environmental standards etc., and the MoEF&CC for phasing the implementation of different environmental measures. The Petitioner

was also granted liberty to approach the Commission after obtaining the approval from CEA and direction of MoEF&CC on the above aspects. The relevant portion of the order dated 20.3.2017 is as follows:

> "*10. Since, the 2014 Tariff Regulations do not provide for the grant of in-principle approval for the capital expenditure, the prayer of the petitioner for in-principle approval of the Abstract scheme of capital expenditure by relaxing the provisions of the tariff regulations through invoking Regulation 54 of 2014 Tariff Regulations, is not maintainable. In our view, since, the implementation of new norms in the existing and under construction thermal generating stations would require modification of their existing system and installation of new systems such as Retro-fitting of additional fields in ESP/replacement of ESP, etc. to meet Suspended Particulate Matter norms, installation of FGD system to control SO2 and Selective Catalytic Reduction (SCR) systems for DeNox, the petitioner is directed to approach the Central Electricity Authority to decide specific optimum technology, associated cost and major issues to be faced in installation of different system like SCR, etc. The petitioner is also directed to take up the matter with the Ministry of Environment and Forest for phasing of the implementation of the different environmental measures. Accordingly, the petitioner is granted liberty to file appropriate petition at an appropriate stage based on approval of CEA and direction of MoEF which shall be dealt with in accordance with law."*

c) Pursuant to the directions of the Commission in Petition No. 72/MP/2016 and to expedite the implementation of new environmental norms, the Petitioner separated the process of approval for $SO_2$ abatement technology from NOx abatement technology. Accordingly, the Petitioner on 6.4.2017 approached MoEF&CC and CEA for further guidance and submitted prefeasibility study for FGD system.

d) On 11.12.2017, in exercise of powers conferred under Section 5 of the Environment (Protection) Act, 1986, the Central Pollution Control Board, MoEFCC inter-alia issued direction to the Petitioner to install FGD System by September 2021 and June 2022 for Unit 1 and 2 respectively and take immediate measures like installation of low NOx burners, providing Over Fire Air (OFA) etc. and comply with NOx emission limit by the year 2022.

e) Thereafter, CEA vide letter dated 8.1.2019 provided the suggestive technology and indicative cost for installation of FGD system at the generating station of the Petitioner. Accordingly, the Petitioner filed separate Petition No. 152/MP/2019 for

approval of capital cost of FGD separately. The Commission vide order dated 11.11.2019 in Petition No. 152/MP/2019 accorded the "in-principle" approval for installation of FGD system.

f) In the meantime, the Petitioner submitted feasibility study of proposed NOx abetment system to CEA on 14.11.2018. Further, the Petitioner had discussions with various vendors on NOx abatement system and based on the same, the Feasibility Report (FR) was revised and submitted to CEA on 30.4.2020. This report mentioned two technologies for NOx abetment i.e. '*In Combustion Control'* and '*Post Combustion Controls'* (Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR)).

g) 'In Combustion Control' technology is the most suitable for meeting the norm of 450 mg/$Nm^3$ and 'In Combustion Control' technology along with SNCR (Post Combustion Control) is for meeting the norms of 300 mg / $Nm^3$ for the Project of the Petitioner.

h) CEA vide its letter dated 19.6.2020, accorded its approval to go ahead with NOx abatement system for meeting the norm of 450 mg/Nm3 in line, and to approach the Commission for approval of tariff implication. The relevant extracts of CEA's letter dated 19.6.2020 is as follows:

> *''This is with reference to your letter dated 30.4.2020, vide which revised feasibility report for NOx abatement in MPL boilers for complying new emission norms of MOEF&CC dated 07.12.2015 was sent to CEA and approval for NOx abatement was sought.*
>
> *It is to draw your attention on the Record of Proceedings of Hon'ble Supreme Court of India dated 5th August 2019 (copy enclosed as Annexure A), that a consensus has been reached between EPCA, Ministry of Power, Central Pollution Control Board (CPCB), Central Electricity Authority (CEA), NTPC and MoEF&CC and they agreed in principle to revise the NOx norms from 300 mg/Nm3 to 450 mg/Nm3 for Thermal Power Plants installed between 01/01/2004 to 31/12/2016. Hon'ble Supreme Court ordered to take action on the basis of the consensus that has been reached.*
>
> *Hence, pursuant to 'in-principle' approval from Hon'ble Supreme Court of India, the normative value of NOx for unit >500 MW and installation date between year 2003-2016 shall be considered as 450 mg/Nm3. However, notification of revision of norms by MoEF&CC is yet to be notified.*

*Therefore, with reference to 'in-principle' approval from Hon'ble Court, MPL may consider the suitable NOx abatement technology accordingly on the condition that MPL shall comply the revised NOx norms on continuous monitoring or periodicity basis (whatever the case may be) and MPL shall be accountable for any violation of the above mentioned norms. In regard of tariff accountable to expenditure towards NOx abatement, MPL may approach the regulatory commission along with tariff petition."*

i) The Hon'ble Supreme Court in order dated 5.8.2019 in MC Mehta Vs Union of India observed that during a meeting between EPCA, MoP, CPCB, CEA, NTPC and MoEF&CC, a consensus was reached that there may be operational issues with SNCR technology and SCR system are not proven for Indian coal having high ash content. After detailed discussions, it was agreed in-principle to revise the NOx norms upwards to 450 mg/Nm$^3$. However, final decision on these issues was based on the outcome of the pilot projects. Further, in-principle agreement between EPCA, MoP, Central Pollution Control Board (CPCB), CEA, NTPC and MoEF&CC was reached to revise the NOx norms to 450 mg/Nm$^3$ and the same was also informed to the Hon'ble Supreme Court, which also directed the authorities to act on the consensus reached. However, the concerned authorities did not to take appropriate action in this regard.

j) Accordingly, the Petitioner at the time of filing of instant petition and in the absence of clarity on the final norms of NOx had sought bids separately for meeting applicable norm of 300 mg/Nm$^3$ and the expected norm of 450 mg/Nm$^3$.

k) Thus, in the interest of time and as a prudent measure, the Petitioner proposed to implement either the norm of 300 mg/Nm$^3$ through 'In Combustion' along with SNCR technology or to implement only 'In Combustion Control Technology' in first stage for meeting the norm of 450 mg/Nm$^3$ and the implementation of SNCR System in the second stage for meeting the norms of 300 mg/Nm$^3$. Accordingly, the Petitioner made two separate prayers for approval of cost of 450 mg/Nm$^3$ in the prayer (d) and cost of meeting norm of 300mg/Nm$^3$ in prayer (c).

l) '***In Combustion Control Technology'*** includes implementation of solutions based

on the CFD analysis, Low NOx Burner, Separated Over Fire Air Ports (SOFA), combustion optimization etc. and the same reduces the NOx emissions for operation of unit in 40% - 100% load range. Under this, the improved staging and precise stoichiometry control of secondary air results in reduced NOx emissions but increase the unburnt carbon, which necessitates for advanced pulverizers, hardware and software tools for balanced fuel distribution.

m) In '***Post Combustion Control Technology' (SNCR),*** urea solution (40% concentrated) is injected into the high temperature zone of the furnace ($850^0$C to $1100^0$C), which requires dry urea handling system, DM water for dilution, liquid urea storage, transportation system etc, and the NOx will be < 300 mg / $Nm^3$ at 6 % $O_2$ on dry basis for 40-100 % loading.

n) 'In Combustion Modification' is implemented in 12 months and 'In Combustion Modification with SNCR' is implemented in 16 months for each unit. Further, one month outage (from unit cooled down condition to boiler light up) for each unit is required for retrofitting the above technology. The minimum time gap between completion of two units will be of two (2) months.

o) In compliance of the provisions of Regulation 29 of the 2019 Tariff Regulations, the Petitioner has already submitted its proposals to the beneficiaries for giving their views vide letters dated 27.6.2020 and 24.7.2020

p) The Petitioner will file a separate supplementary tariff petition in terms of Regulations 29(4) of the 2019 Tariff Regulations based on actual and projected expenditure.

q) Apart from an impact on capacity charges, there would also be other cost implications mainly pertaining to O&M Expenses, Auxiliary Power Consumption (APC), increase in SHR etc. The O&M Expenses would also increase on account of the running Operation Cost of the consumables like Solid Urea Prills and DM Water for the De-NOx system towards operation of the new facilities for SNCR.

r) The Maintenance Spares and services of contracted/outsourced manpower would also be required to ensure the availability and reliability of the system for both In Combustion modification and SNCR. All these will lead to increase in Annual Fixed Cost (AFC) and, hence, Capacity Charges over rest of the life of the Project.

s) The existing per unit capacity charge at normative PLF of 85% will increase not only because of increase in AFC but also due to increase in Auxiliary Consumption (SNCR) and SHR (In-combustion) due to ECS. The existing energy charge rate will also increase due to additional reagent cost and increase in auxiliary consumption (SNCR) and SHR (In-combustion).

t) The Petitioner has prayed to consider Auxiliary Consumption of 0.05% for each unit for DeNOx system in addition to the Normative Auxiliary Consumption of 6.25% applicable as per the 2019 Tariff Regulations, for the Petitioner's Project in case of implementation of SNCR system. Further, the said Auxiliary Consumption of 0.05% is based on projected levels of operation of plant (PLF) and DeNOx system and it is likely that the same may be higher or lower than this projection based on actual level of operation of plant and DeNOx system.

u) When the generating units operate at part load, there may be some reduction in absolute value (in kWh) of Auxiliary Consumption, however, its reduction in terms of percentage will not be in the same proportion and hence percentage Auxiliary Consumption at part load may be higher than that at TMCR condition. Accordingly, the Petitioner has prayed that said Auxiliary Consumption may be trued up based on actuals subsequently or replaced by the norms to be specified by Commission if available at that time. The said Additional Auxiliary Consumption would have impact on the lowering of Declared Capacity ("DC") and Change in Availability Formula. Further, there would be a reduction in LTA capacity for beneficiaries due to Lower DC and a change in PLF formula.

v) The Petitioner has prayed for water charges and has proposed that water consumption of 5.5 m3/hr @ ₹20/m3 may be approved in case SNCR is required to be installed.

w) The additional O&M on Manpower/ Spares Cost has been considered at 5% of total capex based on the estimated Manpower and Maintenance spares required to operate and maintain the DeNOx system for Petitioner's Project of 2x525 MW. Accordingly, the Petitioner has sought leave of the Commission to allow true up of this cost based on actuals subsequently.

x) The actual consumption of Solid Urea Prills in SNCR would depend on actual PLF and quality/ purity of Reagent and Coal received at site. The cost of Urea Prills would depend on the lowest cost discovered after bidding as per the Regulations. The Petitioner has proposed the consumption of Solid Urea Prills at 660 kg/hr with estimated design NOx emission level of 880 mg/Nm3, which may vary based on final design/coal parameters used. However, the consumption of Solid Urea Prills will depend upon the purity and properties of the Reagent actually procured through competitive bidding. Solid Urea Prills Cost is proposed as ₹38/kg. Accordingly, allow true up of these consumption and cost parameters based on actuals subsequently in case SNCR is required to be installed.

y) There will be an impact on existing Energy Charge Rate ("ECR") without Reagent Cost as well as ECR with Reagent Cost after installation of DeNOx system (SNCR) due to Additional Auxiliary Consumption. It is also anticipated the installation of DeNOx system ("In-Combustion") may also have an adverse impact on boiler efficiency by about 0.8% thereby increasing Station Heat Rate (SHR) by about 22 kCal/kWh and, thus on ECR. Therefore, allow the said increased Station Heat rate and ECR during Supplementary Tariff Petition stage or true-up exercise post installation of DeNOx system.

z) Pursuant to installation of FGD and DeNOx systems at Petitioner's Project, Petitioner will be in a disadvantageous position in getting dispatched on Merit Order Dispatch ("MOD") principle due to higher ECR. This will give unfair and unintended advantage, of getting priority in MOD, to plants that have not installed ECS such as FGD and DeNOx. The Petitioner has proposed that even after installation of ECS, for MOD purposes, the ECR formula may be used taking both Reagent Consumption and landed price of Reagent as zero and Auxiliary Consumption as per approved norms without installation of ECS and till all ECSs are installed, the Merit Order may be run without any reference to additional ECR. However, payment for Supplementary Energy Charges for ECS, with impact of Reagent Cost, Auxiliary Consumption and SHR, may be done over and above the ECR used for Merit Order purpose.

aa) The cost of maintenance spares have been assumed at 20% (as per the provision of the Regulation 34(a)(iv) of the 2019 Tariff Regulations. Similarly, cost of Solid Urea Prills (for SNCR) for 30 days and stock for 20 days needs to be considered in line with Regulation 34(a)(i) and Regulation 34(a)(ii) of the 2019 Tariff Regulations.

bb) The cost of Capital Spares projected or actually consumed after installation of DeNOx System will be claimed subsequently in the supplementary or true-up tariff petition based on realistic projections or actual consumption, as the case may be.

cc) Accordingly, the additional Auxiliary Consumption may be trued up based on actuals subsequently or replaced by the norms to be specified, if available at that time. Further, the said Additional Auxiliary Consumption would have impact on the lowering of DC and change in availability formula. Futher, there would be a reduction in LTA capacity for beneficiaries due to lower DC and a change in PLF formula.

dd) The cost of NOx abatement system includes electrical system modification and civil foundations. The cost estimate proposed for "In-Combustion" modification is based on L1 Bidder cost arrived through open tendering process. There would also be other cost

implications because of the proposed NOx abatement system mainly pertaining to reagent cost, water cost, maintenance spares and services of contracted/ outsourced manpower would also be required to ensure the availability and reliability of systems.

ee) One month shutdown period per unit is required for hook-up and commissioning of NOx abatement system. In case, it is not possible to retrofit system within planned outage, this shutdown period be considered as "deemed availability" for payment of capacity charges.

ff) The Petitioner has computed the levelized value of likely or indicative impact on tariff over the balance useful life of the Project (average of both the Units) post installation of In-Combustion DeNOx system as about ₹0.06/kWh (₹0.03/kWh in Per Unit Capacity Charges and ₹0.03/kWh in ECR) for meeting 450 mg/Nm3 with "In Combustion Modification" alone.

gg) Modify the schedule and its consequent impact on the proposed ACE or the operational costs, if the need so arises.

**Cost of Technology**

5. The Petitioner has submitted that based on the bidding and other associated costs, the estimated cost for 'In Combustion Modification' is ₹51.46 crore and for 'In Combustion Modification with SNCR' is ₹198.37 crore. The details are as follows:

**(₹ in crore)**

| Sl. No. | Description | In Combustion Modification (2X 525 MW) | In Combustion Modification + SNCR (2x525 MW) |
|---|---|---|---|
| 1 | NOx abatement System Base Cost | | |
| 1.1 | De-NOx main package cost including Furnace CFD Analysis and LOI Analyser | 33.08# | 131.35@ |
| 1.2 | Fire Fighting System | 0 | 1 |
| 1.3 | DCS Augmentation | 2 | 4 |
| 1.4 | Mercury Analyser | 2 | 2 |
| 2 | Total NOx abatement System Base Cost (1.1 +1.2+1.3+1.4) | 37.08 | 138.35 |
| 3 | Engineering & Project Management Cost (7% of Item 2) | 2.60 | 9.68 |

| | | | |
|---|---|---|---|
| 4 | Total Base Cost of the project (2 + 3) | 39.68 | 148.04 |
| 5 | GST (18 % of 4) | 7.14 | 26.65 |
| 6 | IEDC (Start-up Cost and Pre-operative expense) | 0.00 | 3.13 |
| 7 | Total NOx abatement System cost including taxes and duties (4 + 5 +6) | 46.82 | 177.82 |
| 8 | Contingency (5 % of 7) | 2.34 | 8.89 |
| 9 | Project Cost including Taxes & Duties, IEDC and contingency (7 +8) | 49.16 | 186.71 |
| 10 | IDC and Financial charges (as per scheduled flows) | 2.31 | 11.66[$] |
| 11 | Opportunity Cost* | 0 | 0 |
| 12 | Total Project Cost (9+10+11) | 51.46 | 198.37 |

(Note : # - L1 Bidder Quote; @ - As per offer received from bidder – ₹ 67.56 Cr for In combustion Modification and ₹. 63.80 Cr for SNCR; $ - including Solid Urea prills; * - opportunity shutdown i.e. carrying out activities during annual shutdown, otherwise, fixed charges for shutdown shall be considered)

6. Later, the Petitioner vide affidavit dated 9.6.2021 and 2.11.2021 submitted that with the revision of emission norms for NOx for TPPs installed during the period from 1.1.2004 to 31.12.2016 from 300 mg/Nm3 to 450 mg/Nm3 by MoEFCC vide Notification G.S.R. 662(E) dated 19.10.2020, the prayer (c) of the instant petition has become infructuous. The Petitioner is now seeking relief with respect to all other prayers w.r.t. norm of 450mg/Nm$^3$. The Petitioner has proposed installation of only "In Combustion Control Technology" to bring the level of NOx emission below 450 mg/N in the Project.

**Selection of Technology**

7. The Petitioner has submitted that in absence of any structured guidelines available from CEA, the Petitioner carried out the Feasibility Study of various available technologies and submitted to CEA along with letter dated 5.11.2018. The Feasibility Study was revised and the analysis of following technologies was submitted to CEA on 30.4.2020:

1. In Combustion Control
2. Post Combustion Control
    a. Selective Non- Catalytic Reduction (SNCR)
    b. Selective Catalytic Reduction (SCR)

8. The Petitioner has submitted that selection of De-NOx technology as a retrofit option mainly depends on technical, economic and commercial factors. The technical part includes existing NOx emission levels, NOx removal efficiency required, location of the plant (inland / coastal / access to reagent source), space requirements, outage requirements, layout feasibility, suitability of technology for Indian conditions. The economic factors include capital cost, operating cost (cost of reagent chemical, cost of utilities required and cost of increased APC). The commercial aspects include impact on tariff, reliable suppliers, proven technology and supplier guarantee.

9. The Petitioner has submitted that after preliminary study of all above technologies, it was concluded that "In Combustion Control" is the most suitable technology for meeting the norm of 450 mg/Nm3 for the Project of the Petitioner for the following reasons:

- Low well-established In-Combustion Control technology on a variety of world coals with proven reliability.
- NOx emission removal in the range of 30% - 40%. However, coals with favorable FC/VM ratio, fuel Nitrogen can lead to removal efficiency upto 40%.
- Adequate and commercially viable suppliers offer this technology.
- No reagent is required

10. The Petitioner has submitted that it is difficult to do micro level cost-benefit analysis for individual plants such as the Petitioner's Project. The benefits of lowering NOx emission levels are essentially societal and macro in nature, in the shape of better health of public leading to lower mortality, incidental reduction in spending on health needs, reduction in soil acidification, reduced rain acidification, economic benefits of better productivity from healthier workforce. Further, overall reduction in level of NOx for society is dependent on collective action for reduction by all TPPs. Moreover, irrespective of result of such cost-benefit analysis, the installation of DeNOx system is mandated by the revised emission

norms in the form of governing law and there is no choice in the matter but to implement the law by installing the necessary equipment. The Petitioner has further submitted that the "in-principle" approval is necessary for securing financial support from lending institutes and achieve financial closure for implementation of the system within timelines.

11. The case was called for virtual hearing on 1.6.2021 and the Commission vide Record of Proceedings (RoP) dated 2.6.2021 directed the Petitioner to submit the following information on affidavit:

> *"i Guaranteed value of maximum NOx emissions as agreed with OEM of Boiler;*
> *ii. Actual level of NOx measured at full load;*
> *iii. Status of implementation of abatement system to meet revised norms for NOx in view MoEFCC gazette notification dated 16.10.2020 relaxing NOx emissions to 450 mg/Nm3; and*
> *iv. The emission levels of NOx during the last three years as submitted to the Pollution Control Board."*

12. The Petitioner vide additional affidavit dated 9.6.2021 has submitted that the actual emissions of the units of the Petitioner are more than prescribed limit of 450 mg/$Nm^3$ and has prayed to grant relief associated with norm of 450 mg/$Nm^3$. The Petitioner has further submitted that the design guarantee of NOx emission is 880 mg/Nm3. The bidding process was completed but contract is yet to be awarded. Petitioner has further submitted that the NOx level varies based on unit load, coal blending, mill combination, excess air etc. Thus, the emission at full load may not give picture about the worst operating conditions and the emissions at part load are higher than full load operation. The actual emission level data during 2018 -19 to 2020- 21, when the Units were operating at or around full load is as follows:

| **Unit 1** | | | **Unit 2** | | |
|---|---|---|---|---|---|
| **Month** | **Load (MW)** | **NOx (mg/$Nm^3$)** | **Month** | **Load (MW)** | **NOx (mg/$Nm^3$)** |
| **April 2018** | 521.0 | 485.5 | **April 2018** | 520.0 | 512.2 |
| **December 2018** | 519.6 | 739.0 | **December 2018** | 519.3 | 664.7 |
| **January 2019** | 522.0 | 865.1 | **January 2019** | 517.3 | 830.2 |
| **February 2019** | 518.0 | 780.7 | **February 2019** | 519.0 | 739.3 |
| **May 2019** | 521.0 | 840.9 | **May 2019** | 520.0 | 783.4 |

| | | | | | |
|---|---|---|---|---|---|
| **August 2019** | 513.0 | 743.7 | **August 2019** | 514.0 | 698.5 |
| **March 2020** | 521.0 | 348.9 | **March 2020** | 516.0 | 789.1 |
| **October 2020** | 517.0 | 838.0 | **October 2020** | 515.0 | 676.8 |
| **December 2020** | 525.9 | 456.4 | **December 2020** | 521.0 | 496.2 |
| **March 2021** | 525.0 | 457.6 | | | |

13. As regards NOx emission levels during the last three years submitted to the Pollution Control Board, the Petitioner has submitted the quarterly NOx emission levels during 2018-19 to 2020-21 submitted to Jharkhand State Pollution Control Board (JSPCB) and the same is as follows:

| **Unit** | **Month** | **2018-19** | | **2019-20** | | **2020-21** | |
|---|---|---|---|---|---|---|---|
| | | **Load (MW)** | **NOx (mg/Nm$^3$)** | **Load (MW)** | **NOx (mg/Nm$^3$)** | **Load (MW)** | **NOx (mg/Nm$^3$)** |
| **Unit 1** | April | 521.0 | 485.5 | 434.0 | 761.6 | | |
| | May | 362.0 | 561.4 | 521.0 | 840.9 | | |
| | June | 442.0 | 585.9 | 358.8 | 845.2 | 304.0 | 811.8 |
| | July | 368.6 | 559.4 | 372.5 | 725.3 | | |
| | Aug | 363.0 | 275.6 | 513.0 | 743.7 | 291.0 | 779.3 |
| | Sept | | | 295.7 | 764.7 | 319.0 | 718.6 |
| | Oct | 402.0 | 404.1 | 305.9 | 672.8 | 517.0 | 838.0 |
| | Nov | 470.0 | 492.4 | 478.3 | 703.0 | 509.0 | 697.4 |
| | Dec | 519.6 | 739.0 | 520.0 | 787.8 | 525.9 | 456.4 |
| | Jan | 522.0 | 865.1 | 478.0 | 884.9 | 518.4 | 456.2 |
| | Feb | 518.0 | 780.7 | 461.0 | 751.9 | 516.0 | 572.4 |
| | Mar | 483.0 | 809.9 | 521.0 | 348.9 | 525.0 | 457.6 |
| **Unit 2** | April | 520.0 | 512.2 | 489.5 | 833.4 | | |
| | May | 347.0 | 489.0 | 520.0 | 783.4 | | |
| | June | 500.0 | 496.9 | 345.4 | 249.3 | 308.0 | 776.3 |
| | July | 356.9 | 521.1 | | | | |
| | Aug | 386.0 | 316.2 | 514.0 | 698.5 | 291.0 | 701.6 |
| | Sept | 393.0 | 245.1 | 295.5 | 719.4 | 276.0 | 662.0 |
| | Oct | | | 473.7 | 751.0 | 516.0 | 789.1 |
| | Nov | 460.0 | 520.2 | 496.5 | 7.6 | 515.0 | 676.8 |
| | Dec | 519.3 | 664.7 | 480.0 | 667.8 | 521.0 | 496.2 |
| | Jan | 517.3 | 830.2 | 467.0 | 799.0 | | |
| | Feb | 519.0 | 739.3 | 451.0 | 728.9 | 482.0 | 558.7 |
| | Mar | 466.0 | 769.4 | 480.0 | 326.7 | 525.0 | 460.0 |

***Note:*** *Reports for some of the months are not available either because of Unit annual overhaul, Unit shutdown or because of lockdown.*

14. The petition was admitted on 19.7.2021 and the Petitioner was directed to submit the corrected values of NOx measurements to 6% O2 (dry basis) in line with MoEF&CC Notification dated 28.6 2018.

15. The Petitioner vide affidavit dated 27.7.2021 stated that the information submitted vide additional affidavit dated 10.6.2021 was calculated at 6% $O_2$ correction on dry basis and the same is corroborated with report of third party (Mitra S. K. Private Limited) who conducted the sampling and stack emission tests of the Project and submitted the reports to JSPCB.

16. The petition was again heard on 22.10.2021 and the Petitioner was directed to clarify the following:

*i. The head-wise envisaged capital cost for each of the solutions i.e. CFD analysis, low NOx burner, SOFA, combustion optimization etc.*

*ii. As the boilers already have low NOx burners, whether the Petitioner proposes to replace the same with new low NOx burners? If so, justification for such requirement and analysis carried out for CFD analysis, SOFA, combustion optimization etc. with existing low NOx burners.*

17. In response, the Petitioner vide additional affidavit dated 2.11.2021 has submitted that the price bid was invited on a lump sum basis including cost of CFD analysis and LOI analyser. Thus, the head wise capital cost for each solution i.e. low NOx burner, SOFA, combustion optimization etc. is not available with the Petitioner. However, out of the estimated ₹51.46 crore for 'In Combustion Modification', the cost of main De-NOx package is ₹33.08 crore, including Furnace CFD analysis cost of ₹0.15 crore and LOI Analyser cost of ₹3.95 crore. The Petitioner has further submitted that boilers of MPL are not provided with Low Nox Burner and are provided with conventional burners / burner tip but not with low NOx burners.

18. During the hearing on 20.5.2022, the learned counsel for the Petitioner submitted that the total estimated cost of 'Combustion Modification' of ₹51.46 crore is likely to escalate, as the L1 bidder conveyed that the validity of the quoted price was only upto 30.6.2021 and escalation thereof on account of inflation in last two years. The Petitioner will come up with final cost, after implementation of the subject works.

19. The Commission after hearing the learned counsel for the Petitioner reserved the order in the matter. The Respondents have neither participated in the hearing nor filed any reply in

the matter. Accordingly, the instant order is prepared after considering the submission made in the Petition and Petitioner's affidavits dated 9.6.2021, 26.7.2021 and 2.11.202.

**Analysis and Decision**

20. We have considered the submissions of the Petitioner and perused documents available on record. It is observed that subsequent to MoEF&CC's notification, the Petitioner filed a Petition No. 72/MP/2016 before the Commission and sought in-principle approval for the expenditure proposed to be incurred to meet the revised emission norms w.r.t. $SO_2$ and NOx. The Commission vide order dated 20.3.2017 directed the Petitioner to approach CEA for specific optimum technology, associated cost and major issues to be faced in installation of revised environmental norms and to approach MoEF&CC for phasing the implementation of different environmental measures.

21. In order to expedite the implementation of environmental norms, the Petitioner sought approval of CEA for $SO_2$ system and NOx system separately. Accordingly, the Petitioner on 6.4.2017 approached MoEF&CC and CEA along with a pre-feasibility study report on FGD system. Central Pollution Control Board, MoEF&CC vide letter dated 11.12.2017, directed the Petitioner to install FGD System by September 2021 and June 2022 for Unit 1 and 2 respectively, and take immediate measures like installation of low NOx burners, providing Over Fire Air (OFA) etc. and comply with NOx emission limit by the year 2022. Subsequently, CEA vide letter dated 8.1.2019 provided the suggestive technology and indicative cost for installation of FGD system for the generating station of the petitioner. Accordingly, the Petitioner had filed separate Petition No. 152/MP/2019 before the Commission for approval of capital cost of FGD separately. The Commission vide order dated 11.11.2019 in Petition No. 152/MP/2019 accorded the in-principle approval for installation of FGD system.

22. In the meantime, on 14.11.2018, the Petitioner submitted feasibility study of proposed

NOx abetment system to CEA and subsequently, based on discussions with various vendors revised and updated subject report and submitted the same to CEA on 30.4.2020. The report mentions of two technologies i.e. 'In Combustion Control' and 'Post Combustion Controls' (SNCR and SCR). The 'In Combustion Control' is for abatement of NOx upto 450 mg/$Nm^3$ and 'Post Combustion Controls' (SNCR) for abatement upto 300 mg/$Nm^3$.

23. Accordingly, the Petitioner in the interest of time and as a prudent measure, initially proposed to implement either the norm of 300 mg/$Nm^3$ through 'In Combustion' along with SNCR technology or to implement only 'In Combustion Control Technology' in first stage for meeting the norm of 450 mg/$Nm^3$ and the implementation of SNCR System in the second stage for meeting the norms of 300 mg/$Nm^3$.

24. Thus, the Petitioner invited bids and discovered the price for 'In Combustion Technology' and received bidders estimated costs for 'In Combustion' along with SNCR, however, did not award the projects. Accordingly, sought the in-principle approval for implementation of ECS for abatement of NOx to 450 mg / $Nm^3$ as well as 300 mg / $Nm^3$ along with increase in APC, increase in SHR, working capital for SNCR, increase in O&M expenses etc.

25. Subsequent to MoEF&CC's notification dated 16.10.2020, wherein, the NOx was revised to 450 mg/Nm3, the Petitioner has withdrawn prayers pertaining to NOx abatement system for 300 mg / $Nm^3$. Accordingly, the submissions and prayers of the Petitioner w.r.t. 450 mg/ $Nm^3$ i.e. 'In Combustion Control Technology' are considered in this order.

26. It is also observed that the MoEF&CC vide notification dated 31.3.2021 has categorized the TPP's based on their location and extended the timelines for the implementation of environment norms and exempted these compliances for the units retiring within the specified timelines. The details in brief are as follows:

| Sl. No. | Category | Location / Area | Timelines for compliance | |
|---|---|---|---|---|
| | | | Non-retiring units | Retiring units |
| 1 | Category A | Within 10 km radius of National Capital Region or cities having million plus population, as per census 2011 | Upto 31st December, 2022 | Upto 31st December, 2022 |
| 2 | Category B | Within 10 km radius of Critically polluted areas or non-attainment cities, as defined by CPCB | 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 |

27. Further, MoEF&CC vide notification dated 5.9.2022 revised/ extended the timelines for implementation of ECS norms. The details in brief are as follows:

| Sl. No. | Category | Location / Area | Timelines for compliance (Non-retiring units) | | Last date for retirement of units for exemption from compliance | |
|---|---|---|---|---|---|---|
| | | | Parameters other than $SO_2$ emissions | $SO_2$ emissions | Parameters other than $SO_2$ emissions | $SO_2$ emissions |
| 1 | Category A | Within 10 km radius of National Capital Region or cities having million plus population, as per census 2011 | Upto 31st December, 2022 | Upto 31st December, 2024 | Upto 31st December, 2022 | Upto 31st December, 2027 |
| 2 | Category B | Within 10 km radius of Critically polluted areas or non-attainment cities, as defined by CPCB | Upto 31st December, 2023 | Upto 31st December, 2025 | Upto 31st December, 2025 | |
| 3 | Category C | Other than those included in category A and B | Upto 31st December, 2024 | Upto 31st December, 2026 | Upto 31st December, 2026 | |

28. As per the information furnished by the Petitioner and submitted to JSPCB, it is observed that the monthly average NOx emission of the units of the generating station are generally higher than prescribed norm of 450 mg/ $Nm^3$, however, for few months the emissions are lower than the norm of 450 mg/ $Nm^3$. In response to query of the Commission,

the Petitioner submitted that the NOx emission depends on unit load, coal blending, mill combination, excess air etc., and the emissions at part load are higher than full load operation. Accordingly, the Commission is of the view that though at times, under specific conditions, the Petitioner by controlling various parameters, able to achieve the NOx emissions upto 450 mg/$Nm^3$, implementation of 'In Combustion Control Technology' is necessary for consistent abatement of NOx below 450 mg/$Nm^3$, particularly, the balance useful life of the plant is being around 15 years.

29. Implementation of solutions based on the CFD analysis, Low NOx Burner, Separated Over Fire Air Ports (SOFA), combustion optimization etc. reduces the NOx emissions for operation of unit in 40% - 100% load range. However, it may also result in increase in unburnt carbon, which necessitates for advanced pulverizers, hardware and software tools for balanced fuel distribution. This technology may necessitate for higher SHR i.e. around 22 kCal / kCal. The total estimated cost, based on 'L1 bidder' is ₹51.46 crore which includes main package (including Furnace CFD analysis and LOI analyser) of ₹33.08 crore, DCS augmentation system (₹2 crore), Mercury Analyser (₹2 crore), GST @ 18 % (₹7.14 crore), IDC and financial charges (₹2.31 crore) and Contingency (₹2.34 crore). As per the estimations of the Petitioner, considering the balance useful life of the units, the additional tariff is of ₹. 0.06/kWh (₹0.03/kWh in Per Unit Capacity Charges and ₹0.03/kWh in ECR).

30. Further, Regulations 11, 26 and 29 of the 2019 Tariff Regulations, enables a generating company to seek in-principle approval and incur/ claim additional capitalization to meet the revised emission norms, which read as follows:

> ***"11. In-principle approval in specific circumstances****: The generating company or the transmission licensee undertaking any additional capitalization on account of change in law events or force majeure conditions may file petition for in-principle approval for incurring such expenditure after prior notice to the beneficiaries or the long term customers, as the case may be, along with underlying assumptions, estimates and justification for such expenditure if the estimated expenditure exceeds 10% of the admitted capital cost of the project or Rs.100 Crore, whichever is lower."*

***"26. Additional Capitalisation beyond the original scope***
*(1) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:*
*….*
*(b) Change in law or compliance of any existing law;"*

"***29. Additional Capitalization on account of Revised Emission Standards: (****1) A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.*
*(2) The proposal under clause (1) above shall contain details of proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the generating company.*
*(3) Where the generating company makes an application for approval of additional capital expenditure on account of implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.*
*(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff."*

31. In line with the above provisions of the 2019 Tariff Regulations, the Petitioner has filed the instant Petition seeking the in-principle approval for ECS required to comply with NOx norms of MoEF&CC. The Petitioner has submitted the proposal along with scope of works, scheduled completion, estimated cost, indicative impact on tariff etc. to the concerned beneficiaries. Thus, the Petitioner has complied with the Regulation 29(1) of the 2019 Tariff Regulations. However, no comments have been received.

32. The Petitioner has invited bids for 'In Combustion Technology' for abatement of NOx within 450 mg/ $Nm^3$, wherein, 4 vendors submitted valid financial bids and bidding process was completed on 30.9.2019. The estimated price for the 'In Combustion Technology', as per the 'L1 bidder' was ₹51.46 crore for 1050 MW (2 x 525 MW) of the generating station. This estimated cost of ₹51.46 crore, includes main package (including Furnace CFD analysis and LOI analyser) of ₹33.08 crore, DCS augmentation system (₹2 crore), Mercury Analyser (₹2 crore), GST @ 18 % (₹7.14 crore), IDC and financial charges (₹2.31 crore) and Contingency

(₹2.34 crore). As the bid was issued a lumpsum, the Petitioner does not have the head wise capital cost for each solution i.e. low NOx burner, SOFA, combustion optimization, etc. The Petitioner has also submitted that the quoted price of L1 bidder was only valid till 30.6.2021, with minor escalation.

33. As regards O&M charges, the Petitioner has submitted that this technology may necessitate higher SHR i.e. around 22 kCal/ kCal and as per the estimations, considering the balance useful life of the units, the additional tariff on account of implementation of ECS for abatement NOx upto 450 mg/ $Nm^3$ is of ₹0.06/kWh (₹0.03/kWh in Per Unit Capacity Charges and ₹0.03/kWh in ECR). However, it is observed that these claims are based on the preliminary estimations of the Petitioner and actual impact can be assessed only after actual implementation of the NOx system for the generating station and other similar size of units. As per Regulation 29(4) of the 2019 Tariff Regulations, after completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff. Accordingly, the prayers of the Petitioner for the grant of additional APC, Gross Station Heat Rate, additional water charges, spares, additional O&M Expenses, landed cost of reagents and deemed availability on account of shutdown, etc. are not considered in the instant order, as the instant petition is for in-principle approval for implementation of 'In Combustion Technology' and the same would arise only after the ECS system is installed and becomes operational. Accordingly, we would consider them in petition to be filed by the Petitioner under Regulation 29(4) of the 2019 Tariff Regulations, after the installation of NOx control system. Further, the Commission has introduced a separate tariff stream for ECS by amending the 2019 Tariff Regulations vide the 2020 Amendment Regulations. Accordingly, the Petitioner's claim towards grant of additional

APC, additional water consumption and additional O&M Expenses, etc. shall be dealt as per the amended 2019 Tariff Regulations.

34. The Petitioner has approached the Commission for in-principle approval of the capital cost for implementation of NOx control system. The Petitioner has claimed estimated price of ₹51.46 crore for implementation of the 'In Combustion Technology' in its generating station (2 x 525 MW), which includes main package (including Furnace CFD analysis and LOI analyser) of ₹33.08 crore, DCS augmentation system (₹2 crore), Mercury Analyser (₹2 crore), GST @ 18 % (₹7.14 crore), IDC and financial charges (₹2.31 crore) and Contingency (₹2.34 crore). The CEA has specified the suitable technology and the indicative capital cost of the Wet Limestone Based FGD for reduction of $SO_2$ emissions. However, no such indicative capital cost is available in the case of NOx control system. The Commission vide combined order dated 28.4.2021 in Petition No.335/MP/2020 & Others, approved the hard cost for implementation of the Combustion Modification System for NOx control system in case Vindyachal Super Thermal Power Station, Korba Super Thermal Power Station, Mauda Power Thermal Power Station and Sipat Super Thermal Power Station. Further, the Commission vide order dated 28.9.2021 in Petition No. 597/MP/2020 in case of NTPC SAIL and order dated 7.5.2022 in Petition No.393/MP/2019 in the case of Aravali Power Company Private Limited had accorded in-principle approval of the hard cost towards implementation of NOx control system discovered through bidding. The details of the in-principle approvals granted by the Commission for installation of the NOx control system is given in the table below. In the instant case, the Petitioner has indicated hard cost of ₹37.08 crore (Furnace CFD analysis and LOI analyzer of ₹33.08 crore, DCS augmentation system of ₹2 crore and Mercury Analyser of ₹2 crore) for implementation of NOx control system. It is observed from the table below that the hard cost claimed by the Petitioner in the instant case is much higher than the hard cost approved in the case of NTPC, NTPC SAIL and Aravali Power Company

Private Limited

| Petition No. & date of order | Petitioner | Generating Station /Capacity (MW) | Date of IFB & NoA | Cost Approved for Combustion Modification System (₹ in crore) |
|---|---|---|---|---|
| 335/MP/2020 & Ors 28.4.2021 | NTPC | (i) VSTPS-III (2x500 MW) | IFB:31.7.2017 NOA:18.9.2018 | 17.74 |
| | | (ii) VSTPS-IV (2x500 MW) | IFB:31.7.2017 NOA:18.9.2018 | 17.74 |
| | | (iii) KSTPS-III (500 MW) | IFB 28.9.2018 NOA:22.8.2020 | 8.76 |
| | | (iv) MSTPS-I (2x500 MW) | IFB:31.7.2017 NOA:18.9.2018 | 18.28 |
| | | (v) SSTPS-II (2X500 MW) | IFB:24.4.2020 NOA: -NA- | 12.92 |
| Petition No. 597/MP/2020 28.9.2021 | NTPC SAIL | 2x250 MW | IFB:31.8.2018 NoA:26.8.2019 | 14.00 |
| Petition No. 393/MP/2019 7.5.2022 | Aravali Power Company Private Limited, | 3x500 MW | IFB:24.11.2018 NOA:29.4.2019 | 16.94 |
| Petition No. 606MP/2020 | MPL | 2x525 MW | | Claimed 37.08 |

35. As the hard cost of NOx control system claimed by the Petitioner is much higher, we are not inclined to approve the same at this stage. The Petitioner is directed to adopt prudent methods of transparent competitive bidding and arrive at more economical and reasonable capital/ hard cost of the NOx control system in the interest of beneficiaries and the consumers. However, we accord “in-principle” approval for implementation of ‘In Combustion Technology’ in its generating station (2x 525 MW) and the Petitioner is granted liberty to approach the Commission after of the implementation of ‘In Combustion Technology’ for further consideration in accordance with Regulation 29(4) of the 2019 Tariff Regulations. Further, the Petitioner is directed to proceed for implementation NOx abatement system in line with the

timelines issued by the MoEF&CC from the time to time, in consultation with the beneficiaries.

36. The Petitioner has also prayed for modification of the granted LTA on account of reduction in the Net Capacity of Project due to proposed ECS installation. The Petitioner has made similar prayer in Petition No.152/MP/2019. In this regard, the Commission in order dated 11.11.2019 in Petition No.152/MP/2019 has already held that the Petitioner has to invoke the provision of LTA and the 2009 Regulations for any reduction of LTA in accordance with law. As such, we are not inclined to dwell on this issue in this order. The relevant portion of the order dated 11.11.2019 is as follows:

> *"41. The Petitioner in the instant petition has prayed for requisite modification in the LTA granted on account of reduction in the Net Capacity of the generating station due to increase in Auxiliary Consumption in regard to FGD installation. It is observed that the reduction of LTA capacity is governed as per their provision of LTA Agreement and the CERC (Connectivity, Long term Access and Medium Term Open Access) Regulations, 2009 and subsequent amendment thereof. The Petitioner has to invoke the provision of LTA and connectivity regulations for any reduction of LTA in accordance with Law….."*

37. As regards the Petitioner's prayer to not consider the increased ECR on account of installation of De-Nox installation for the purpose of preparation of stack of merit order dispatch, the Commission in order dated 11.11.2019 in Petition No.152/MP/2019 filed by the Petitioner has already observed as under. Therefore, we do not find any reason to further dwell on this issue in this order.

> *"39. The dispatch of the generating station depends on the requisition by the beneficiaries of such generating station. All the beneficiaries may not be purchasing the electricity from same generating stations. The merit order for dispatch is worked out by each beneficiary based on the principle of marginal cost. The marginal cost of each beneficiary is different and therefore, the merit order for dispatch will also be different. In this context, the Ministry of Power, on 30.7.2019, issued direction u/s 107 of the Act, to address this issue as under:*
>
> > *"3. The Phasing of the implementation of the new environmental norms has been reviewed. Accordingly, it is directed that the impact of operating costs incurred in the implementation of new Environmental Norms shall not be considered for Merit Order Despatch of Coal Based Thermal Power Stations till 31.12.2022. For this purpose, CERC shall advise a methodology of supplementary tariff determination separately from normal tariff so that installation of FGD/other ECS has no bearing on the merit order dispatch till 31.12.2022."*
>
> *40. As per Clause (2) of the Regulation 14 of the 2019 Tariff Regulations, the*

*Commission has already specified the regulatory framework for determination of supplementary tariff inter-alia provides supplementary capacity charges and supplementary energy charges. This regulation is effective for 2019-24 tariff period. The Commission will determine this supplementary tariff on submission of application by the petitioner after installation of FGD. As such, state/beneficiaries may decide merit order dispatch while scheduling the plants. Accordingly, prayer (g) of the petitioner is disposed in terms of above."*

38. Petition No. 606/MP/2020 is disposed of in terms of the above discussions and findings.

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

# ANNEXURE P/6

## TARIFF FILING FORMS (THERMAL)

## FOR DETERMINATION OF SUPPLIMANTARY TARIFF

## FOR

## Maithon Power Limited

(From 13.01.2024 to 31.03.2029)

# TARIFF FILING FORMS (THERMAL)

## FOR DETERMINATION OF SUPPLIMANTARY TARIFF

## FOR

## Maithon Power Limited

(From 13.01.2024 to 31.03.2029)

MAITHON POWER LIMITED

**Check list**

| Form No. | Title of Tariff Filing Forms (Thermal) | Tick |
|---|---|---|
| FORM- 1 | Summary of Tariff | √ |
| FORM -1 (I) | Statement showing claimed capital cost | √ |
| FORM -1 (II) | Statement showing Return on Equity | √ |
| FORM-2 | Plant Characteristics (De-Nox Abatement System) | √ |
| FORM-3 | Normative parameters considered for tariff computations | √ |
| FORM- 4 | Details of Foreign loans | NA |
| FORM- 4A | Details of Foreign Equity | NA |
| FORM-5 | Abstract of Admitted Capital Cost for the existing Projects | NA |
| FORM- 6 | Financial Package upto COD | √ |
| FORM- 7 | Details of Project Specific Loans | NA |
| FORM- 8 | Details of Allocation of corporate loans to various projects | NA |
| FORM-9 | Statement of Additional Capitalisation after COD | √ |
| FORM- 10 | Financing of Additional Capitalisation | NA |
| FORM- 11 | Calculation of Depreciation on original project cost | √ |
| FORM- 12 | Statement of Depreciation | √ |
| FORM- 13 | Calculation of Weighted Average Rate of Interest on ActualLoans | √ |
| FORM- 14 | Draw Down Schedule for Calculation of IDC & FinancingCharges | √ |
| FORM- 15 | Details of Fuel for Computation of Energy Charges | √ |
| FORM- 16 | Details of Limestone for Computation of Energy Charge Rate | NA |
| FORM-17 | Details of Capital Spares | NA |
| FORM- 18 | Non-Tariff Income | NA |
| FORM-19 | Details of Water Charges | NA |
| FORM-20 | Details of Statutory Charges | NA |

MAITHON POWER LIMITED MAITHON

PART-I

**List of Supporting Forms / documents for tariff filing for Thermal Stations**

| Form No. | Title of Tariff Filing Forms (Thermal) | Tick |
|---|---|---|
| **FORM-A** | Abstract of Capital Cost Estimates | **NA** |
| **FORM-B** | Break-up of Capital Cost for Coal/Lignite based projects | **NA** |
| **FORM-C** | Break-up of Capital Cost for Gas/Liquid fuel based Projects | **NA** |
| **FORM-D** | Break-up of Construction/Supply/Service packages | **NA** |
| **FORM-E** | Details of variables , parameters , optional package etc. for New Project | **NA** |
| **FORM-F** | Details of cost over run | **NA** |
| **FORM-G** | Details of time over run | **NA** |
| **FORM –H** | Statement of Additional Capitalisation during end of the useful life | **NA** |
| **FORM –I** | Details of Assets De-capitalised during the period | **NA** |
| **FORM –J** | Reconciliation of Capitalisation claimed vis-à-vis books of accounts | **NA** |
| **FORM –K** | Statement showing details of items/assets/works claimed under Exclusions | **NA** |
| **FORM-L** | Statement of Capital cost | **NA** |
| **FORM-M** | Statement of Capital Woks in Progress | **NA** |
| **FORM-N** | Calculation of Interest on Normative Loan | √ |
| **FORM-O** | Calculation of Interest on Working Capital | √ |
| **FORM-P** | Incidental Expenditure up to SCOD and up to Actual COD | **NA** |
| **FORM-Q** | Expenditure under different packages up to SCOD and up to Actual COD | **NA** |
| **FORM-R** | Actual cash expenditure | **NA** |
| **FORM-S** | Statement of Liability flow | **NA** |
| **FORM-T** | Summary of issues involved in the petition | **NA** |

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

MAITHON POWER LIMITED * MAITHON *

**Form-1**

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **Place** | Dhanbad |

| Sr No. | Particulars | Unit | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Summary of Tariff | | | | | | | |
| 1.1 | Depreciation | Rs. Lakh | 13.33 | 57.43 | 39.87 | 159.91 | 159.91 | 159.91 |
| 1.2 | Interest on Loan | Rs. Lakh | 16.07 | 66.91 | 46.38 | 176.89 | 162.67 | 147.57 |
| 1.3 | Return of Equity | Rs. Lakh | 11.15 | 49.42 | 34.31 | 137.62 | 137.62 | 137.62 |
| 1.4 | Interest on Working Capital | Rs. Lakh | 7.53 | 27.79 | 18.39 | 73.72 | 73.55 | 64.83 |
| 1.5 | O&M Expenses | Rs. Lakh | 7.62 | 28.19 | 16.25 | 68.59 | 72.19 | 75.98 |
| 1.6 | Special Allowance (if applicable) | Rs. Lakh | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | **Total** | **Rs. Lakh** | **55.70** | **229.74** | **155.21** | **616.74** | **605.95** | **585.92** |
| 2 | Primary Fuel | | | | | | | |
| 2.1 | Landed Fuel Cost (coal/gas/RLNG/liquid) as per FSA approved by the beneficiaries | Rs./Ton | NA | | | | | |
| | (%) of Fuel Quantity | (%) | | | | | | |
| 2.2 | Landed Fuel Cost (coal from Integrated mine) as per FSA, if any, approved by benficiaries or as per allocation of coal quantity | Rs./Ton | NA | | | | | |
| | (%) of Fuel Quantity | (%) | | | | | | |
| 2.3 | Landed Fuel Cost Imported Coal as per FSA approved by beneficiaries | Rs./Ton | NA | | | | | |
| | (%) of Fuel Quantity | (%) | | | | | | |
| 2.4 | Landed Fuel Cost (coal/gas/RLNG/liquid) other than FSA | Rs./Ton | NA | | | | | |
| | (%) of Fuel Quantity | (%) | | | | | | |
| 2.5 | Landed Fuel Cost Imported Coal other tha | Rs./Ton | NA | | | | | |
| | (%) of Fuel Quantity | (%) | | | | | | |
| 3 | Secondary Fuel | | | | | | | |
| 3.1 | Secondary Fuel Cost | Rs./Unit | | | | | | |
| | Additional Energy Charge Rate ex-bus (Paise/kWh) | Rs./Unit | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |

Note:

1. Details of calculations, considering equity as per regulation to be furnished.

2A. If multi fuel is used simultaneously, give 2 in respect of every fuel individually

2B. The rate of energy charge shall be computed for open cycle operation and combined cycle operation separately in case of gas/liquid fuel fired plants.

2C. The total energy charge shall be worked out based on ex-bus energy scheduled to be sent out.

2D. The Energy Charge rate for the month shall be based on fuel cost(s) and GCV(s) for the month as per Regulation 43.

2E. In case breakup is not available for 2.1 to 2.5, consolidated statement needs to be submitted.

MAITHON POWER LIMITED * MAITHON *

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

**Statement showing claimed capital cost (A+B)** — **Form-I(I)**

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |

Rs lakh

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Opening Capital Cost* | 1181.30 | 1181.30 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 2 | Add: Addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Less: De-capitalisation during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Less: Reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Add: Discharges during the year / period | 0.00 | 535.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| **6** | **Closing Capital Cost** | **1181.30** | **1716.52** | **3028.69** | **3028.69** | **3028.69** | **3028.69** |
| 7 | Average Capital Cost | 1181.30 | 1448.91 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |

** Opening capital cost of Rs. 1181.30 lakhas on 13.01.2025 pertains to capital cost for Unit-2*
*Opening capital cost as on 31.12.2025 includes capitalisation in respect of Unit-1 (Rs. 1312.18 lakh), in addition to Unit-2 capital cost*

**Statement showing claimed capital cost eligible for RoE at normal rate - (A)**

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Opening Capital Cost | NOT APPLICABLE | | | | | |
| 2 | Add: Addition during the year / period | | | | | | |
| 3 | Less: De-capitalisation during the year / period | | | | | | |
| 4 | Less: Reversal during the year / period | | | | | | |
| 5 | Closing Capital Cost | | | | | | |
| 6 | Average Capital Cost | | | | | | |

**Statement showing claimed capital cost eligible for RoE at one year MCLR + 350 bps subject to ceiling of 14.00% - (B)**

| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Opening Capital Cost | 1181.30 | 1181.30 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 2 | Add: Addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Less: De-capitalisation during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Less: Reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Add: Discharges during the year / period | 0.00 | 535.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Closing Capital Cost | 1181.30 | 1716.52 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 6 | Average Capital Cost | 1181.30 | 1448.91 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |

MAITHON POWER LIMITED * MAITHON *

| Statement showing Return on Equity | | | | | | | Form-I(IIA) |
|---|---|---|---|---|---|---|---|
| **Name of the Petitioner** | | Maithon Power Limited | | | | | |
| **Name of the Generating Station** | | 1050 MW Maithon Project | | | | | |
| **Place** | | Dhanbad | | | | | |
| | | | | | | | |
| | **Statement showing Return on Equity at Normal Rate** | | | | | | |
| | | | | | | | |
| **Sr No.** | **Particulars** | **13.01.2025 to 31.03.2025** | **01.04.2025 to 30.12.2025** | **31.12.2025 to 31.03.2026** | **2026-27** | **2027-28** | **2028-29** |
| **1** | 2 | 3 | 4 | | 5 | 6 | 7 |
| | **Return on Equity** | | | | | | |
| 1 | Gross Opening Equity (Normal) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Less: Adjustment in Opening Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Adjustment during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Net Opening Equity (Normal) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Add: Increase in equity due to addition during the year / period | NOT APPLICABLE | | | | | |
| 6 | Less: Decrease due to Decapitalization during the year / period | | | | | | |
| 7 | Less: Decrease due to reversal during the year / period | | | | | | |
| 9 | Net Closing Equity (Normal) | | | | | | |
| 10 | Average Equity (Normal) | | | | | | |
| 11 | Rate of ROE | | | | | | |
| 12 | Total RoE | | | | | | |

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

| Statement showing Return on Equity linked to SBI MCLR | | | | | | | Form-I(IIB) |
|---|---|---|---|---|---|---|---|
| Name of the Petitioner | Maithon Power Limited | | | | | | |
| Name of the Generating Station | 1050 MW Maithon Project | | | | | | |
| | | | | | | | |
| Sr No. | Particulars | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.01.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
| 1 | 2 | 3 | 4 | | 5 | 6 | 7 |
| | **Return on Equity (beyond the original scope of work including additional capitalization due to Change in Law, ECS,Force Majeure)** | | | | | | |
| 1 | Gross Opening Equity | 354.39 | 354.39 | 908.61 | 908.61 | 908.61 | 908.61 |
| 2 | Less: Adjustment in Opening Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Adjustment during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Net Opening Equity | 354.39 | 354.39 | 908.61 | 908.61 | 908.61 | 908.61 |
| 5 | Add: Increase in equity due to addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Less: Decrease due to Decapitalization during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | Less: Decrease due to reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Add: Increase due to discharges during the year / period | 0.00 | 160.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Net Closing Equity | 354.39 | 514.96 | 908.61 | 908.61 | 908.61 | 908.61 |
| 9 | Average Equity | 354.39 | 434.67 | 908.61 | 908.61 | 908.61 | 908.61 |
| 10 | Rate of ROE (One year SBI MCLR + 350 bps subject to ceiling of 14.00%) | 12.15% | 12.50% | 12.50% | 12.50% | 12.50% | 12.50% |
| 11 | MAT | 17.47% | 17.47% | 17.47% | 17.47% | 17.47% | 17.47% |
| 12 | Total RoE (Pro-rata) | 11.15 | 49.42 | 34.31 | 137.62 | 137.62 | 137.62 |
| | RoE (Annualised) | 52.17 | 65.84 | 137.62 | 137.62 | 137.62 | 137.62 |

MAITHON POWER LIMITED

Petitioner

MAITHON POWER LIMITED
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## Plant Characteristics (De-Nox Abatement System)

FORM-2

| Name of the Petitioner | Maithon Power Limited | |
|---|---|---|
| Name of the Generating Station | 1050 Maithon Project | |
| | | |
| **Unit(s)/Block(s)/Parameters** | **Unit 1** | **Unit 2** |
| **Installed Capacity ( MW)** | 525 | 525 |
| **Schedule ODe as per Investment Approval** | NA | NA |
| **Actual ODe /Date of Taken Over (as applicable)** | | 13-01-2025 |
| **Pit Head or Non Pit Head** | NA | NA |
| Name of the Boiler Manufacture | BHEL | BHEL |
| Name of Turbine Generator Manufacture | BHEL | BHEL |
| **Main Steams Pressure at Turbine inlet ($kg/Cm^2$) abs[1].** | 172 | 172 |
| **Main Steam Temperature at Turbine inlet ($^oC$) [1]** | 537 | 537 |
| **Reheat Steam Pressure at Turbine inlet ($kg/Cm^{2)}$ [1]** | 40.5 | 40.5 |
| **Reheat Steam Temperature at Turbine inlet ($^oC$) [1]** | 537 | 537 |
| **Main Steam flow at Turbine inlet under MCR condition (tons /hr)[2]** | 1571.017 | 1571.017 |
| **Main Steam flow at Turbine inlet under VWO condition (tons /hr)[2]** | 1651.66 | 1651.66 |
| **Unit Gross electrical output under MCR /Rated condition (MW)[2]** | 525.15 | 525.15 |
| **Unit Gross electrical output under VWO condition (MW)[2]** | 551.154 | 551.154 |
| **Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)3** | 1945 | 1945 |
| | | |
| **Conditions on which design turbine cycle heat rate guaranteed** | | |
| % MCR | 100% | 100% |
| % Makeup Water Consumption | 0 | 0 |
| Design Capacity of Make up Water System | 3 | 3 |
| Design Capacity of Inlet Cooling System | 61000 | 61000 |
| Design Cooling Water Temperature ($^0C$) | 33 | 33 |
| Back Pressure | 0.1047 | 0.1047 |
| Steam flow at super heater outlet under BMCR condition (tons/hr) | 1700 | 1700 |
| Steam Pressure at super heater outlet under under BMCR condition (Kg/cm2) | 178 | 178 |
| Steam Temperature at super heater outlet under BMCR condition (0C) | 540 | 540 |
| Steam Temperature at Reheater outlet at BMCR condition ($^0C$) | 540 | 540 |
| Design / Guaranteed Boiler Efficiency (%)[4] | 87.8 | 87.8 |
| Design Fuel with and without Blending of domestic/imported coal | 4671 kcal/kg | 4671 kcal/kg |
| | | |

MAITHON POWER LIMITED
MAITHON

## Plant Characteristics (De-Nox Abatement System)

**FORM-2**

| | |
|---|---|
| **Name of the Petitioner** | **Maithon Power Limited** |
| **Name of the Generating Station** | **1050 Maithon Project** |

| **Unit(s)/Block(s)/Parameters** | **Unit 1** | **Unit 2** |
|---|---|---|
| **Type of Cooling Tower** | Induced Draught Type | Induced Draught Type |
| **Type of cooling system**[5] | Re-circulation type | Re-circulation type |
| **Type of Boiler Feed Pump**[6] | Two Turbine-driven BFP & One Motor-driven BFP | Two Turbine-driven BFP & One Motor-driven BFP |
| **Fuel Details**[7] | | |
| -Primary Fuel | Coal | Coal |
| -Secondary Fuel | Light Diesel Oil & Heavy Furnace Oil | Light Diesel Oil & Heavy Furnace Oil |
| -Alternate Fuels | | |
| Types of SOX control system | | |
| Types of NOX control system | | Incombustion Modification |
| Details of SPM control system | | |
| **Special Features/Site Specific Features**[8] | | |
| **Special Technological Features**[9] | | |
| **Environmental Regulation related features**[10] | | |
| **Any other special features** | | |

1. At Turbine MCR condition.
2: with 0% (Nil) make up and design Cooling water temperature
3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.
4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put
5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.
6: Motor driven, Steam turbine driven etc.
7: Coal or natural gas or Naptha or lignite etc.
8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features
9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.
10: Environmental Regulation related features like FGD, ESP etc.,
Note 1: In case of deviation from specified conditions in Regulation, correction curve of manufacturer may also be submitted.
Note 2: Heat Balance Diagram has to be submitted along with above information in case of new stations.
Note 3: The Terms – MCR, BMCR, HHV, Performance coal, are as defined in CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010 notified by the Central Electricity Authority
Note 4: The copy of Certificate shall be submitted in terms of Regulation 4 as per Appendix-VI

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

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## Normative Parameters considered for Tariff Computations

Form-3

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **Place** | Dhanbad |

| Particulars | Unit | Existing 2023-24 | 13.01.2025 to 31.03.2025 | 01.04.2025 to 30.12.2025 | 31.01.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 4 | | 5 | 6 | 7 | 8 |
| Base Rate of Return on Equity | % | | | | | | | |
| Base Rate of Return on Equity for Supplimentary Tariff | % | | 12.15% | 12.50% | 12.50% | 12.50% | 12.50% | 12.50% |
| Effective Tax Rate 4 | % | | 17.47% | 17.47% | 17.47% | 17.47% | 17.47% | 17.47% |
| Target Availability (NAPAF) | % | | 85% | 85% | 85% | 85% | 85% | 85% |
| Peak Hours | % | | 0% | 0% | 0% | 0% | 0% | 0% |
| Off-Peak Hours | % | | 85% | 85% | 85% | 85% | 85% | 85% |
| ß- Average Monthly Frequency Response Performance5 | 0-1 | | | | | | | |
| Auxiliary Energy Consumption | % | | 5.75% | 5.75% | 5.75% | 5.75% | 5.75% | 5.75% |
| Gross Station Heat Rate* | kCal/kWh | | 2363.40 | 2363.40 | 2363.40 | 2363.40 | 2363.40 | 2363.40 |
| Revised Gross Station Heat Rate | kCal/kWh | | 2385.59 | 2385.59 | 2385.59 | 2385.59 | 2385.59 | 2385.59 |
| Specific Fuel Oil Consumption | ml/kWh | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Cost of Coal/Lignite for WC1 | Months | | 50 | 50 | 50 | 50 | 50 | 50 |
| Cost of Main Secondary Fuel Oil for WC1 | Months | | 2 | 2 | 2 | 2 | 2 | 2 |
| Fuel Cost for WC2 | Months | | NA | NA | NA | NA | NA | NA |
| Liquid Fuel Stock for WC2 | Months | | NA | NA | NA | NA | NA | NA |
| O&M expenses** | | | 7.62 | 28.19 | 28.19 | 68.59 | 72.19 | 75.98 |
| Maintenance Spares for WC | % of O&M | | 20% | 20% | 20% | 20% | 20% | 20% |
| Receivables for WC | Months | | 45 | 45 | 45 | 45 | 45 | 45 |
| Storage capacity of Primary fuel | MT | | 2 | 2 | 2 | 2 | 2 | 2 |
| SBI 1 Year MCLR plus 325 basis point3 | % | | 11.90% | 12.25% | 11.90% | 11.90% | 11.90% | 11.90% |
| Blending ratio of domestic coal/imported coal | | | | | | | | |
| Norms for consumption of reagent | | | | | | | | |
| Specific Limestone consumption for Wet Limestone FGD | | | | | | | | |
| Specific Limestone consumption for Lime Spray Dryer or Semi-dry FGD | | | | | | | | |
| Specific consumption of sodium bicarbonate | | | | | | | | |
| Specific Limestone consumption for CFBC based generating station | | | | | | | | |
| Specific urea consumption of the SNCR | | | | | | | | |
| Specific ammonia consumption of the SCR | | | | | | | | |
| Transit and Handling Losses of coal or lignite, as applicable | | | | | | | | |

*

Note: 1). For Coal based/lignite based generating stations
2). For Gas Turbine/Combined Cycle generating stations duly taking into account the mode of operation on gas fuel and liquid fuel.
3). Mention relevant date

4). Effective tax rate is to be computed in accordance with Regulation 31 i.e. actual tax (or advance tax)/gross income, where gross income refers the profit before tax.
5). To be submitted at the time of truing up based on RPC certification.

* Gross Heat Rate has been claimed considering boiler efficiency of 86% instead of design boiler efficiency for reasons as stated in Petition
**O&M Expenses as per Reg.36(9) (2% of the Hard Cost as on COD), escalated @5.25% thereafter

MAITHON POWER LIMITED MAITHON

Petitioner

MAITHON POWER LIMITED MAITHON

Part-I
FORM-3A
ADDITIONAL FORM

## Calculation of O&M Expenses

| | |
|---|---|
| Name of the Company : | Maithon Power Limited |
| Name of the Power Station : | 1050 MW Maithon Project |

Amount in Rs. Lakhs

| S.No. | Particulars | 13-1-25 to 31-3-25 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| | | 13-01-2025 | 01-04-2025 | 31-12-2025 | 01-04-2026 | 01-04-2027 | 01-04-2028 |
| | | 31-03-2025 | 30-12-2025 | 31-03-2026 | 31-03-2027 | 31-03-2028 | 31-03-2029 |
| | | 78 | 274 | 91 | 365 | 366 | 365 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| iii | **Hard Cost as on Ode** | 1694.79 | | 3006.96 | | | |
| a | **O&M expenses under Reg.36(9) (2% of the Hard Cost as on COD), escalated @5.25% thereafter** | 7.62 | 28.19 | 16.25 | 68.59 | 72.19 | 75.98 |
| b | **(-) sale of gypsum or other by-products** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1a | Normative O&M | 7.62 | 28.19 | 16.25 | 68.59 | 72.19 | 75.98 |
| 2 | **O&M expenses under Reg.36(-)** | | | | | | |
| | | | | | | | |
| 3 | **Total O&M Expenses (Pro-rata)** | **7.62** | **28.19** | **16.25** | **68.59** | **72.19** | **75.98** |
| 4 | **Total O&M Expenses (annualised)** | 35.68 | 37.55 | 65.17 | 68.59 | 72.19 | 75.98 |
| | | | | | | | |

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

Form-4

## Details of Foreign Loans

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **Exchange Rate at COD or 31.03.2024, whichever is la** | |
| **Exchange Rate as on 31.3.2024** | |

| S. No. | Fianncial Year (Starting from COD) | Year 1 | | | | Year 2 | | | | Year 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) |
| | **Currency1** | | | | | | | | | | | | |
| A.1 | At the date of Drawl or at the beginning to the year of the period2 | | | | | | | | | | | | |
| 2 | Scheduled repayment date of principal | | | | | | | | | | | | |
| 3 | Scheduled payment date of interest | | | | | | | | | | | | |
| 4 | At the end of Financial year | | | | | | | | | | | | |
| B | In case of Hedging3 | | | | | | | | | | | | |
| 1 | At the date of hedging | | | | | | | | | | | | |
| 2 | Period of hedging | | | | | | | | | | | | |
| 3 | Cost of hedging | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | **Currency21** | | | | | | | | | | | | |
| A.1 | At the date of Drawl2 | | | | | | | | | | | | |
| 2 | Scheduled repayment date of principal | | | | | | | | | | | | |
| 3 | Scheduled payment date of interest | | | | | | | | | | | | |
| 4 | At the end of Financial year | | | | | | | | | | | | |
| B | In case of Hedging3 | | | | | | | | | | | | |
| 1 | At the date of hedging | | | | | | | | | | | | |
| 2 | Period of hedging | | | | | | | | | | | | |
| 3 | Cost of hedging | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | **Currency31& so on** | | | | | | | | | | | | |
| A.1 | At the date of Drawl2 | | | | | | | | | | | | |
| 2 | Scheduled repayment date of principal | | | | | | | | | | | | |
| 3 | Scheduled payment date of interest | | | | | | | | | | | | |
| 4 | At the end of Financial year | | | | | | | | | | | | |
| B | In case of Hedging3 | | | | | | | | | | | | |
| 1 | At the date of hedging | | | | | | | | | | | | |
| 2 | Period of hedging | | | | | | | | | | | | |
| 3 | Cost of hedging | | | | | | | | | | | | |

**Not Applicable**

1. Name of the currency to be mentioned e.g. US$, DM, etc.
2. In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.
3. Furnish details of hedging, in case of more than one hedging during the year or part hedging, details of each hedging are to be given
4. Tax (such as withholding tax) details as applicable including change in rates, date from which change effective etc. must be clearly indicated.

MAITHON POWER LIMITED ★ MAITHON ★

MAITHON POWER LIMITED ★ MAITHON ★

**For Petitioner**

## Details of Foreign Equity

Form-4A

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **Exchange Rate at COD or 31.03.2024, whichever is later** | |
| **Exchange Rate as on 31.3.2024** | |

| S. No. | Fianncial Year (Starting from COD) | Year 1 | | | | Year 2 | | | | Year 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) | Date | Amount (Foreign Currency) | Relevant Exchange Rate | Amount (Rs. Lakh) |
| | **Currency 1** | | | | | | | | | | | | |
| A.1 | At the date of infusion | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | **Currency 2** | | | | | | | | | | | | |
| A.1 | At the date of infusion | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | **Currency 3** | | | | | | | | | | | | |
| A.1 | At the date of infusion | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |

---- Not Applicable ----

1. Name of the currency to be mentioned e.g. US$, DM, etc.
2. In case of equity infusion more than once during the year, Exchange rate at the date of each infusion to be given.

MAITHON POWER LIMITED

Petitioner

MAITHON POWER LIMITED

## Financial Package up to COD

Form-6

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **Project Cost as on COD** | 1716.52 |
| **Date of Commercial Operation of the De-Nox** | 13-01-2025 |

| | **Financial Package As Approved** | | **Financial Package as on COD** | | **As admitted on COD** | |
|---|---|---|---|---|---|---|
| | **Currency and Amount** | | **Currency and Amount** | | **Currency and Amount** | |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| | | | | | | |
| Loan-I | - | - | - | - | - | - |
| Loan-II | - | - | - | - | - | - |
| Loan-III | - | - | - | - | - | - |
| | | | | | | |
| and so on | | | | | | |
| | | | | | | |
| Equity- | | | | | | |
| Foreign | - | - | - | - | - | - |
| Domestic | Rs | 3836.00 | | | | |
| **Total Equity** | **Rs** | **3836.00** | | | | |
| Debt : Equity Ratio* | | | | | | |

** the capital cost for the project is funded through 100% equity infusion*

**Note:**

1. Illustration: Say Rs. 80 Cr. + US$ 200 m or Rs. 1680 Cr. including US$ 200 m at an exchange rate of US$=Rs 80
2. Provide details on commercial operation as on COD of each Unit
3. For example: US $ 200m, etc.

Petitioner

MAITHON POWER LIMITED

## Details of Project Specific loans

Form-7

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |

| Particulars | Package1 | Package2 | Package3 | Package4 | Package5 | Package6 |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Source of Loan | NOT APPLICABLE | | | | | |
| Currency | | | | | | |
| Amount of Loan sanctioned | | | | | | |
| Amount of Gross Loan drawn upto 31.03.2024/COD | | | | | | |
| Interest Type | | | | | | |
| Fixed Interest Rate, if applicable | | | | | | |
| Base Rate, if Floating Interest | | | | | | |
| Margin, if Floating Interest | | | | | | |
| Are there any Caps/Floor | | | | | | |
| If above is yes, specify caps/floor | | | | | | |
| Moratorium Period | | | | | | |
| Moratorium effective from | | | | | | |
| Repayment Period | | | | | | |
| Repayment effective from | | | | | | |
| Repayment Frequency | | | | | | |
| Repayment Instalment | | | | | | |
| Base Exchange Rate | | | | | | |
| Are foreign currency loan hedged? | | | | | | |
| If above is yes, specify details | | | | | | |

**Note:**

1. Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.
2. Currency refers to currency of loan such as US$, DM, Yen, Indian Rupee etc.
3. Details are to be submitted as on 31.03.2024 for existing assets and as on COD for the remaining assets.
4. Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the original loan is to be given separately in the same form.
5. If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.
6. Interest type means whether the interest is fixed or floating.
7. Base rate means the base as PLR, MCLR, LIBOR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.
8. Margin means the points over and above the floating rate.
9. At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.
10. Moratorium period refers to the period during which loan servicing liability is not required.
11. Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
12. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
13. Where there is more than one drawl/repayment for a loan, the date & amount of each drawl/repayment may also be given separately
14. If the repayment installment amount and repayment date cannot be worked out from the data furnished above, the repayment schedule to be furnished separately.
15. In case of Foreign loan, date of each drawl& repayment along with exchange rate at that date may be given.
16. Base exchange rate means the exchange rate prevailing as on 31.03.2024 or COD, whichever is later
17. In case of hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.
18. In case of foreign loans, provide details of exchange rate considered on date of each repayment of principal and date of interest payment.
19. At the time of truing up rate of interest with relevant reset date (if any) to be furnished separately
20. At the time of truing up provide details of refinancing of loans considered earlier. Details such as date on which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, financing and other charges incurred for refinancing, etc.

MAITHON POWER LIMITED

**Petitioner**

**Details of Allocation of corporate loans to various projects** Form-4

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |

| Particulars | Package1 | Package2 | Package3 | Package4 | Package5 | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Source of Loan | | | | | | |
| Currency | | | | | | |
| Amount of Loan sanctioned | | | | | | |
| Amount of Gross Loan drawn upto 31.03.2024/COD | | | | | | |
| Interest Type | | | | | | |
| Fixed Interest Rate, if applicable | | | | | | |
| Base Rate, if Floating Interest | | | | | | |
| Margin, if Floating Interest | | | | | | |
| Are there any Caps/Floor | | | | | | |
| If above is yes, specify caps/floor | | | | | | |
| Moratorium Period | | | | | | |
| Moratorium effective from | | | | | | |
| Repayment Period | | | | | | |
| Repayment effective from | | | | | | |
| Repayment Frequency | | | | | | |
| Repayment Instalment | | | | | | |
| Base Exchange Rate | | | | | | |
| Are foreign currency loan hedged? | | | | | | |
| If above is yes, specify details | | | | | | |
| Name of the Projects | | | | | | |
| Project 1 | | | | | | |
| Project 2 | | | | | | |
| Project 3 | | | | | | |

----Not Applicable----

**Note:**

1. Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI,
2. Currency refers to currency of loan such as US$, DM, Yen, Indian Rupee etc.
3. Details are to be submitted as on 31.03.2024 for existing assets and as on COD for the remaining assets.
4. Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the
5. If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.
6. Interest type means whether the interest is fixed or floating.
7. Base rate means the base as PLR, MCLR, LIBOR etc. over which the margin is to be added. Applicable base rate on different dates
8. Margin means the points over and above the floating rate.
9. At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.
10. Moratorium period refers to the period during which loan servicing liability is not required.
11. Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
12. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half-yearly, annual, etc.
13. Where there is more than one drawl/repayment for a loan, the date & amount of each drawl/repayment may also be given separately
14. If the repayment installment amount and repayment date cannot be worked out from the data furnished above, the repayment schedule
15. In case of Foreign loan, date of each drawl & repayment along with exchange rate at that date may be given.
16. Base Exchange Rate means the exchange rate prevailing as on 31.03.2024 or COD, whichever is later.
17. In case of hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.
18. In case of foreign loans, provide details of exchange rate considered on date of each repayment of principal and date of interest payment.
19. At the time of truing up rate of interest with relevant reset date (if any) to be furnished separately
20. At the time of truing up provide details of refinancing of loans considered earlier. Details such as date on which refinancing done,

MAITHON POWER LIMITED

MAITHON POWER LIMITED

**Petitioner**

## Year-wise Statement of Additional Capitalization after COD

Form-9

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |
| **COD** | 13-01-2025 |
| **For Financial Year** | 2024-25 to 2028-29 |

| S. No. | Head of Work / Equipment | ACE Claimed (Projected) | | | | Regulations under which claimed | Justification | Admitted Cost by the Commission, if any |
|---|---|---|---|---|---|---|---|---|
| | | Accrual Basis | Un-discharged Liability included in column 3 | Cash Basis | IDC Included in col. 3 | | | |
| 1 | 2 | 3 | 4 | (5 = 3 - 4) | 6 | 7 | 8 | 9 |
| i | FY 2024-25 | 0.00 | 0.00 | 0.00 | | | | |
| ii | FY 2025-26 | 0.00 | 0.00 | 0.00 | | | | |
| iii | FY 2026-27 | 0.00 | 0.00 | 0.00 | | | | |
| iv | FY 2027-28 | 0.00 | 0.00 | 0.00 | | | | |
| v | FY 2028-29 | 0.00 | 0.00 | 0.00 | | | | |

1. In case the project has been completed and cost has already been admitted under any tariff notification(s) in the past, fill column 9 giving the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the Tariff Order).
2. The above information needs to be furnished separately for each year / period of tariff period 2024-29.

3. In case of de-capitalisation of assets separate details to be furnished at column 1, 2, 3 and 4. Further, the original book value and year of capitalisation of such asset to be furnished at column 8. Where de-caps are on estimated basis the same to be shown separately.
4. Where any asset is rendered unserviceable the same shall be treated as de-capitalised during that year and original value of such asset to be shown at col. 3. and impaired value if any, year of its capitalisation to be mentioned at column 8.
5. Justification against each asset of capitalization should be specific to regulations under which claim has been made and the necessity of capitalization of that particular asset.
6. The Petitioner to submit the list of individual items along with quantum and individual costs claimed as ACE.

**Note:**

1. Fill the form in chronological order year wise along with detailed justification clearly bringing out the necessity and the benefits accruing to the beneficiaries.
2. In case initial spares are purchased along with any equipment, then the cost of such spares should be indicated separately. e.g. Rotor - 50 Crs. Initial spares- 5 Crs

MAITHON POWER LIMITED

**Petitioner**

MAITHON POWER LIMITED

## Financing of Additional Capitalization

Form-10

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Name of the Petitioner** | Maithon Power Limited | | | | | | | | | |
| **Name of the Generating Stat** | 1050 MW Maithon Project | | | | | | | | | |
| **COD** | | | | | | | | | | |
| | | | | | | | | | | |
| | **Actual** | | | | | **Admitted** | | | | |
| **Financial Year (Starting COD)** | **2024-25** | **2025-26** | **2026-27** | **2027-28** | **2028-29** | **2024-25** | **2025-26** | **2026-27** | **2027-28** | **2028-29** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** |
| | | | | | | | | | | |
| **Amount capitalised in Work/ Equipment** | | | | | | | | | | |
| | | | | | | | | | | |
| **Financing Details** | | | | | | | | | | |
| **Loan-1** | | | | | | | | | | |
| **Loan-2** | | | | | | | | | | |
| **Loan-3 and so on** | | | | | | | | | | |
| **Total Loan** | | | | | | | | | | |
| | | | | | | | | | | |
| **Equity** | | | | | | | | | | |
| **Internal Resources** | | | | | | | | | | |
| **Others (Pl. specify)** | | | | | | | | | | |
| | | | | | | | | | | |
| **Total** | - | - | - | - | - | | | | | |

**NOT APPLICABLE**

Petitioner

MAITHON POWER LIMITED * MAITHON *

**Calculation of Depreciation Rate** — Part -1, Form 11

**Name of the Petitioner:** Maithon Power Limited
**Name of the Generating Station:** 1050 MW Maithon Project

(Rs. In Lakhs)

| S.NO. | Name of Asset | Gross Block as on 13.01.2025 | Gross Block as on 31.03.2025 | CERC Dep. Rate | Depreciation amount for the year ended on 31.03.2025 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 = 5x(Col3+Col4)/2 |
| A | **Land under full ownership** | | | | - |
| B | **Land under lease** | | | | |
| (a)* | for investment in the land | | | | - |
| (b) | For cost of clearing the site | | | | - |
| (c) | Land for reservoir in case of hydro generating station | | | | - |
| C | **Assets purchased new** | | | | |
| a. | Pl & Machinery in generating stations | 16,94,78,722.79 | 16,94,78,722.79 | 5.28% | 89,48,476.56 |
| (i) | Hydro electric | | | | - |
| (ii) | Steam electric NHRB & waste heat recovery boilers | | | | - |
| (iii) | Diesel electric and gas plant | | | | - |
| b. | Cooling towers & circulating water systems | | | | - |
| c. | Hydraulic works forming part of the Hydro-generating stations | | | | |
| (i) | Dams, Spillways, Weirs, Canals, Reinforced concrete flumesand siphons | | | | - |
| (ii) | Reinforced concrete pipelines and surge tanks, steel pipielines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works | | | | - |
| d. | Building & Civil Engineering works | | | | |

MAITHON POWER LIMITED

**Calculation of Depreciation Rate** — Part -1, Form 11

**Name of the Petitioner:** Maithon Power Limited

**Name of the Generating Station:** 1050 MW Maithon Project

(Rs. In Lakhs)

| S.NO. | Name of Asset | Gross Block as on 13.01.2025 | Gross Block as on 31.03.2025 | CERC Dep. Rate | Depreciation amount for the year ended on 31.03.2025 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 = 5x(Col3+Col4)/2 |
| (i)* | Offices and showrooms | | | | - |
| (ii) | Containing thermo-electric generating plant | | | | - |
| (iii) | Containing hydro-electric generating plant | | | | - |
| (iv)* | Temporary erections such as wooden structures | | | | - |
| (v) | Roads other than Kutcha roads | | | | - |
| (vi) | Others | | | | - |
| e. | Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant | | | | |
| (i)* | Transformers including foundations having rating of 100 KVA and over | | | | - |
| (ii) | Others | | | | - |
| f.* | Switchgear including cable connections | | | | - |
| g. | Lightning arrestor | | | | |
| (i) | Station type | | | | - |
| (ii) | Pole type | | | | - |
| (iii) | Synchronous condenser | | | | - |
| h. | Batteries | | | | - |

MAITHON POWER LIMITED

**Calculation of Depreciation Rate** — Part -1, Form 11

**Name of the Petitioner:** Maithon Power Limited
**Name of the Generating Station:** 1050 MW Maithon Project

(Rs. In Lakhs)

| S.NO. | Name of Asset | Gross Block as on 13.01.2025 | Gross Block as on 31.03.2025 | CERC Dep. Rate | Depreciation amount for the year ended on 31.03.2025 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 = 5x(Col3+Col4)/2 |
| (i)* | Underground cable including joint boxes and disconnected boxes | | | | - |
| (ii) | Cable duct system | | | | - |
| i. | Overhead lines including cable support | | | | |
| (i)* | Lines on fabricated steel operating at terminal voltages higher than 66 KV | | | | - |
| (ii)* | Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV | | | | - |
| (iii) | Lines on steel on reinforced concrete support | | | | - |
| (iv) | Lines on treated wood support | | | | - |
| j. | Meters | | | | - |
| k. | Self propelled vehicles | | | | - |
| l. | Air Conditioning Plants | | | | |
| (i) | Static | | | | - |
| (ii) | Portable | | | | - |
| m.(i) | Office furniture and furnishing | | | | - |
| (ii) | Office equipment | | | | - |
| (iii) | Internal wiring including fittings and apparatus | | | | - |
| (iv) | Strret Light fiitings | | | | - |

MAITHON POWER LIMITED

**Calculation of Depreciation Rate** — Part -1, Form 11

**Name of the Petitioner:** Maithon Power Limited
**Name of the Generating Station:** 1050 MW Maithon Project

(Rs. In Lakhs)

| S.NO. | Name of Asset | Gross Block as on 13.01.2025 | Gross Block as on 31.03.2025 | CERC Dep. Rate | Depreciation amount for the year ended on 31.03.2025 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 = 5x(Col3+Col4)/2 |
| n. | Apparatus let on hire | | | | |
| (i) | Other than motors | | | | - |
| (ii) | Motors | | | | - |
| o. | Communication equipment | | | | |
| (i) | Radio and high frequency carrier system | | | | - |
| (ii)* | Telephone lines and telephones | | | | - |
| (iii) | Fibre Optic | | | | - |
| p. | I. T Equipment including software | | | | - |
| q. | Any other assets not covered above | | | | - |
| | **Total** | **16,94,78,722.79** | **16,94,78,722.79** | | **89,48,476.56** |
| | GFA Excluding Freehold Land and Railway | 16,94,78,722.79 | 16,94,78,722.79 | | |
| | **Weighted Average Rate of Depreciation (%)** | | | | **5.28%** |

Note: 1.Name of the Assets should conform to the description of the assets mentioned in Depreciation Schedule appended to the Notification.

MAITHON POWER LIMITED

MAITHON POWER LIMITED

**Petitioner**

**Statement of Depreciation** **Form-12**

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |

| S. No. | Particulars | | 13-01-2025 to 31-3-2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|---|
| | | | 13-01-2025 | 01-04-2025 | 31-12-2025 | 01-04-2026 | 01-04-2027 | 01-04-2028 |
| | | | 31-03-2025 | 30-12-2025 | 31-03-2026 | 31-03-2027 | 31-03-2028 | 31-03-2029 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Opening Capital Cost | | 1181.30 | 1181.30 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 2 | Closing Capital Cost | | 1181.30 | 1716.52 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 3 | Average Capital Cost | | 1181.30 | 1448.91 | 3028.69 | 3028.69 | 3028.69 | 3028.69 |
| 4 | Freehold land | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Rate of depreciation | | 5.28% | 5.28% | 5.28% | 5.28% | 5.28% | 5.28% |
| 6 | Depreciable value | | 1063.17 | 1304.02 | 2725.82 | 2725.82 | 2725.82 | 2725.82 |
| 7 | Balance operational life of the Plant at ODe/ beginning of the year | 22.10 | 22.10 | 21.88 | 21.13 | 20.88 | 19.88 | 18.88 |
| 8 | Remaining depreciable value | | 1063.17 | 1290.69 | 2655.07 | 2615.20 | 2455.28 | 2295.37 |
| 9 | **Depreciation (annualised)** | | **62.37** | **76.50** | **159.91** | **159.91** | **159.91** | **159.91** |
| 10 | **Depreciation (pro-rata)** | | **13.33** | **57.43** | **39.87** | **159.91** | **159.91** | **159.91** |
| 11 | Cumulative depreciation at the end of the period | | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 | 590.37 |
| 12 | Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2024 | | | | | | | |
| 13 | Deletion during the year | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | Less: Cumulative depreciation adjustment on account of de-capitalisation | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15 | Net Cumulative depreciation at the end of the period | | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 | 590.37 |
| | Closing Depreciable Value | | 1063.17 | 1544.87 | 2725.82 | 2725.82 | 2725.82 | 2725.82 |
| 16 | Depreciation Recovered at the end of the year(%) | | 1.25% | 4.58% | 4.06% | 9.93% | 15.79% | 21.66% |

1. In case of details of FERV, give information for the applicable period.

MAITHON POWER LIMITED

MAITHON POWER LIMITED

**Petitioner**

| Calculation of Weighted Average Rate of | | | | | | |
|---|---|---|---|---|---|---|
| **Name of the Petitioner** | Maithon Power Limited | | | | | **PART 1 FORM- 13** |
| **Name of the Generating Station** | 1050 Maithon Project | | | | | |
| | | | | | (Amount in Rs. lakh) | |
| **Particulars** | **1-4-24 to 30-6-24** | **1-7-24 to 30-9-24** | **1-10-24 to 31-12-24** | **1-1-25 to 12-1-25** | **13-1-25 to 31-3-25** | **FY 2025 (1.4.24 to 31.3.25)** |
| | actual | actual | actual | actual | projected | |
| **NCD I issued in 2015 (2nd Refinancing)** | | | | | | |
| Gross loan - Opening | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 |
| Cumulative repayments of Loans upto previous ye | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 |
| Net loan - Opening | - | - | - | - | - | - |
| Add: Drawl(s) during the Year | - | - | - | - | - | - |
| Less: Repayment (s) of Loans during the year | | | | | | |
| Net loan - Closing | - | - | - | - | - | - |
| Average Net Loan | - | - | - | - | - | |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | - | - | - | - | - | - |
| | | | | | | |
| **NCD II issued in 2017 (3rd Refinancing)** | | | | | | |
| Gross loan - Opening | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 | 50000.00 |
| Cumulative repayments of Loans upto previous ye | 20000.00 | 20000.00 | 20000.00 | 20000.00 | 20000.00 | 20000.00 |
| Net loan - Opening | 30000.00 | 30000.00 | 30000.00 | 30000.00 | 30000.00 | 30000.00 |
| Add: Drawl(s) during the Year | | | | | | - |
| Less: Repayment (s) of Loans during the year | | | | | 10000.00 | 10000.00 |
| Net loan - Closing | 30000.00 | 30000.00 | 30000.00 | 30000.00 | 20000.00 | 20000.00 |
| Average Net Loan | 30000.00 | 30000.00 | 30000.00 | 30000.00 | 25000.00 | 25000.00 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 598.36 | 598.36 | 604.93 | 78.90 | 396.71 | 2277.26 |
| | | | | | | |
| **SBI - ₹ 1304 Cr - (4th Refinancing)** | | | | | | |
| Gross loan - Opening | - | - | - | - | - | - |
| Cumulative repayments of Loans upto previous ye | - | - | - | - | - | - |
| Net loan - Opening | - | - | - | - | - | - |
| Add: Drawl(s) during the Year | | | | | | - |
| Less: Repayment (s) of Loans during the year | | | | | | - |
| Net loan - Closing | - | - | - | - | - | - |
| Average Net Loan | - | - | - | - | - | - |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | - | - | - | - | - | - |
| | | | | | | |
| **Axis - ₹ 225 Cr (5th Refinancing)** | | | | | | |
| Gross loan - Opening | 22500.00 | 22500.00 | 22500.00 | 22500.00 | 22500.00 | 22500.00 |
| Cumulative repayments of Loans upto previous ye | 6223.40 | 6702.13 | 7180.85 | 7659.57 | 7659.57 | 6223.40 |
| Net loan - Opening | 16276.60 | 15797.87 | 15319.15 | 14840.43 | 14840.43 | 16276.60 |
| Add: Drawl(s) during the Year | - | - | - | - | - | |
| Less: Repayment (s) of Loans during the year | 478.72 | 478.72 | 478.72 | | 478.72 | 1914.89 |
| Net loan - Closing | 15797.87 | 15319.15 | 14840.43 | 14840.43 | 14361.70 | 14361.70 |
| Average Net Loan | 16037.23 | 15558.51 | 15079.79 | 14840.43 | 14601.06 | 15319.15 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 377.27 | 370.20 | 358.87 | 46.62 | 301.15 | 1454.12 |
| | | | | | | |

MAITHON POWER LIMITED

| Calculation of Weighted Average Rate of | | | | | | |
|---|---|---|---|---|---|---|
| **Name of the Petitioner** | Maithon Power Limited | | | | | **PART 1 FORM- 13** |
| **Name of the Generating Station** | 1050 Maithon Project | | | | | |
| | | | | | (Amount in Rs. lakh) | |
| | | | | | | |
| **Particulars** | **1-4-24 to 30-6-24** | **1-7-24 to 30-9-24** | **1-10-24 to 31-12-24** | **1-1-25 to 12-1-25** | **13-1-25 to 31-3-25** | **FY 2025 (1.4.24 to 31.3.25)** |
| **NCD III issued in 2020 (5th Refinancing)** | | | | | | |
| Gross loan - Opening | 19900.00 | 19900.00 | 19900.00 | 19900.00 | 19900.00 | 19900.00 |
| Cumulative repayments of Loans upto previous ye | 3980.00 | 3980.00 | 3980.00 | 9950.00 | 9950.00 | 3980.00 |
| Net loan - Opening | 15920.00 | 15920.00 | 15920.00 | 9950.00 | 9950.00 | 15920.00 |
| Add: Drawl(s) during the Year | | | | | | - |
| Less: Repayment (s) of Loans during the year | | | 5970.00 | | | 5970.00 |
| Net loan - Closing | 15920.00 | 15920.00 | 9950.00 | 9950.00 | 9950.00 | 9950.00 |
| Average Net Loan | 15920.00 | 15920.00 | 12935.00 | 9950.00 | 9950.00 | 12935.00 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 248.07 | 250.79 | 242.62 | 20.45 | 132.53 | 894.46 |
| | | | | | | |
| **Railway Loan - Axis ₹ 350 Cr** | | | | | | |
| Gross loan - Opening | 41000.00 | 41000.00 | 41000.00 | 41000.00 | 41000.00 | 41000.00 |
| Cumulative repayments of Loans upto previous ye | 16852.21 | 17562.43 | 18272.65 | 18982.87 | 18982.87 | 16852.21 |
| Net loan - Opening | 24147.79 | 23437.57 | 22727.35 | 22017.13 | 22017.13 | 24147.79 |
| Add: Drawl(s) during the Year | - | - | - | - | - | |
| Less: Repayment (s) of Loans during the year | 710.22 | 710.22 | 710.22 | - | 710.22 | 2840.88 |
| Net loan - Closing | 23437.57 | 22727.35 | 22017.13 | 22017.13 | 21306.91 | 21306.91 |
| Average Net Loan | 23792.68 | 23082.46 | 22372.24 | 22017.13 | 21662.02 | 22727.35 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 571.75 | 561.17 | 544.02 | 68.77 | 452.13 | 2197.83 |
| | | | | | | |
| **Railway Loan - UBI ₹ 150 Cr** | | | | | | |
| Gross loan - Opening | 13750.00 | 13750.00 | 13750.00 | 13750.00 | 13750.00 | 13750.00 |
| Cumulative repayments of Loans upto previous ye | 3125.00 | 3437.50 | 3750.00 | 4062.50 | 4062.50 | 3125.00 |
| Net loan - Opening | 10625.00 | 10312.50 | 10000.00 | 9687.50 | 9687.50 | 10625.00 |
| Add: Drawl(s) during the Year | - | - | - | - | - | |
| Less: Repayment (s) of Loans during the year | 312.50 | 312.50 | 312.50 | - | 312.50 | 1250.00 |
| Net loan - Closing | 10312.50 | 10000.00 | 9687.50 | 9687.50 | 9375.00 | 9375.00 |
| Average Net Loan | 10468.75 | 10156.25 | 9843.75 | 9687.50 | 9531.25 | 10000.00 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 251.56 | 246.84 | 239.36 | 30.26 | 199.09 | 967.11 |
| | | | | | | |
| **FGD Loan-SBI** | | | | | | |
| Gross loan - Opening | 36467.63 | 38179.97 | 39392.94 | 39392.94 | 39392.94 | 36467.63 |
| Cumulative repayments of Loans upto previous ye | - | - | - | - | - | - |
| Net loan - Opening | 36467.63 | 38179.97 | 39392.94 | 39392.94 | 39392.94 | 36467.63 |
| Add: Drawl(s) during the Year | 1712.34 | 1212.97 | - | - | - | 2925.31 |
| Less: Repayment (s) of Loans during the year | - | - | - | - | 741.06 | 741.06 |
| Net loan - Closing | 38179.97 | 39392.94 | 39392.94 | 39392.94 | 38651.88 | 38651.88 |
| Average Net Loan | 37323.80 | 38786.45 | 39392.94 | 39392.94 | 39022.41 | 37559.75 |
| Rate of Interest on Loan on annual basis | | | | | | |
| Interest on loan | 839.28 | 877.83 | 911.06 | 121.74 | 785.21 | 3535.12 |
| | | | | | | |
| **Total Loan** | **1-4-24 to 30-6-24** | **1-7-24 to 30-9-24** | **1-10-24 to 31-12-24** | **1-1-25 to 12-1-25** | **13-1-25 to 31-3-25** | **FY 2025 (1.4.24 to 31.3.25)** |
| Gross loan - Opening | 233617.63 | 235329.97 | 236542.94 | 236542.94 | 236542.94 | 233617.63 |
| Cumulative repayments of Loans upto previous ye | 100180.62 | 101682.06 | 103183.50 | 110654.95 | 110654.95 | 100180.62 |

MAITHON POWER LIMITED

| Calculation of Weighted Average Rate of | | | | | | |
|---|---|---|---|---|---|---|
| **Name of the Petitioner** | Maithon Power Limited | | | | | **PART 1 FORM- 13** |
| **Name of the Generating Station** | 1050 Maithon Project | | | | | |
| | | | | | (Amount in Rs. lakh) | |
| | | | | | | |
| **Particulars** | **1-4-24 to 30-6-24** | **1-7-24 to 30-9-24** | **1-10-24 to 31-12-24** | **1-1-25 to 12-1-25** | **13-1-25 to 31-3-25** | **FY 2025 (1.4.24 to 31.3.25)** |
| Net loan - Opening | 133437.01 | 133647.91 | 133359.43 | 125887.99 | 125887.99 | 133437.01 |
| Add: Drawl(s) during the Year | 1712.34 | 1212.97 | - | - | - | 2925.31 |
| Less: Repayment (s) of Loans during the year | 1501.44 | 1501.44 | 7471.44 | - | 12242.50 | 22716.84 |
| Net loan - Closing | 133647.91 | 133359.43 | 125887.99 | 125887.99 | 113645.48 | 113645.48 |
| Average Net Loan | 133542.46 | 133503.67 | 129623.71 | 125887.99 | 119766.73 | 123541.25 |
| Interest on loan at average | 2.16% | 2.18% | 2.24% | 0.29% | 1.89% | 9.17% |
| Total Interest Paid | 2886.29 | 2905.19 | 2900.86 | 366.74 | 2266.82 | 11325.90 |

MAITHON POWER LIMITED

**Petitioner**

MAITHON POWER LIMITED

**Calculation of Interest on Normative Loan**

**Form-N**

| | |
|---|---|
| **Name of the Petitioner:** | Maithon Power Limited |
| **Name of the Project** | 1050 MW Maithon Project |

| S. No. | Particulars | 13-1-25 to 31-3-25 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
|---|---|---|---|---|---|---|---|
| | | 13-01-2025 | 01-04-2025 | 31-12-2025 | 01-04-2026 | 01-04-2027 | 01-04-2028 |
| | | 31-03-2025 | 30-12-2025 | 31-03-2026 | 31-03-2027 | 31-03-2028 | 31-03-2029 |
| | | 78 | 274 | 91 | 365 | 366 | 365 |
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Gross Normative loan – Opening | 826.91 | 826.91 | 2120.09 | 2120.09 | 2120.09 | 2120.09 |
| 2 | Cumulative repayment of Normative loan up to previous year | 0.00 | 13.33 | 70.76 | 110.63 | 270.54 | 430.46 |
| 3 | Net Normative loan – Opening | 826.91 | 813.58 | 2049.33 | 2009.46 | 1849.54 | 1689.63 |
| 4 | Add: Increase due to addition during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Deletion during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Deletion during the year (70% of de-cap) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | Less: Decrease due to de-capitalisation during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Less: Decrease due to reversal during the year / period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | Add: Increase due to discharges during the year / period | 0.00 | 374.65 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | Less: Repayment of Loan | 13.33 | 57.43 | 39.87 | 159.91 | 159.91 | 159.91 |
| **10** | **Net Normative loan - Closing** | **813.58** | **1130.80** | **2009.46** | **1849.54** | **1689.63** | **1529.71** |
| **11** | **Average Normative loan** | **820.25** | **972.19** | **2029.39** | **1929.50** | **1769.59** | **1609.67** |
| 12 | Weighted average rate of interest | 9.17% | 9.17% | 9.17% | 9.17% | 9.17% | 9.17% |
| **13** | **Interest on Loan (Pro-rata)** | **16.07** | **66.91** | **46.38** | **176.89** | **162.67** | **147.57** |
| 14 | **Interest on Loan (annualised)** | 75.20 | 89.13 | 186.05 | 176.89 | 162.23 | 147.57 |

MAITHON POWER LIMITED

**Petitioner**

MAITHON POWER LIMITED

## Calculation of Interest on Working Capital

Form-O

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Name of the Petitioner:** | Maithon Power Limited | | | | | | | |
| **Name of the Project** | 1050 MW Maithon Project | | | | | | | |
| **S.No.** | **Particulars** | **Existing 2023-24** | **13-1-25 to 31-3-25** | **01.04.2025 to 30.12.2025** | **31.12.2025 to 31.03.2026** | **2026-27** | **2027-28** | **2028-29** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
| | | | **13-01-2025** | **01-04-2025** | **31-12-2025** | **01-04-2026** | **01-04-2027** | **01-04-2028** |
| | | | **31-03-2025** | **30-12-2025** | **31-03-2026** | **31-03-2027** | **31-03-2028** | **31-03-2029** |
| | | | **78** | **274** | **91** | **365** | **366** | **365** |
| 1 | Cost of Coal/Lignite* | | 133.61 | 133.61 | 267.22 | 267.22 | 267.22 | 267.22 |
| 2 | Cost of Main Secondary Fuel Oil | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Fuel Cost | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | Liquid Fuel Stock | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Cost of Limestone | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | O & M Expenses | | 2.97 | 3.13 | 5.43 | 5.72 | 6.02 | 6.33 |
| 7 | Maintenance Spares | | 7.14 | 7.51 | 13.03 | 13.72 | 14.44 | 15.20 |
| 8 | Receivables | | 152.39 | 157.98 | 316.54 | 315.15 | 312.74 | 240.50 |
| 9 | Total Working Capital | | 296.11 | 302.23 | 602.23 | 601.81 | 600.42 | 529.25 |
| 10 | Rate of Interest | | 11.90% | 12.25% | 12.25% | 12.25% | 12.25% | 12.25% |
| 11 | Interest on Working Capital (Pro-rata) | | 7.53 | 27.79 | 18.39 | 73.72 | 73.55 | 64.83 |
| | Interest on Working Capital (annualised) | | 35.24 | 37.02 | 73.77 | 73.72 | 73.55 | 64.83 |

*Increamental coal cost due to impact on SHR

MAITHON POWER LIMITED

**Petitioner**

MAITHON POWER LIMITED

## Draw Down Schedule for Calculation of IDC & Financing Charges

Form-14

| | |
|---|---|
| Name of the Petitioner | Maithon Power Limited |
| Name of the Generating Station | 1050 MW Maithon Project |

| S. No. | Draw Down Particulars | Quarter 1 | | | Quarter 2 | | | Quarter 3 | | | Quarter 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantum in Foreign Currency | Exchange Rate on draw down date | Amount in Indian Rupee (Rs. Lakhs) | Quantum in Foreign Currency | Exchange Rate on draw down date | Amount in Indian Rupee (Rs. Lakhs) | Quantum in Foreign Currency | Exchange Rate on draw down date | Amount in Indian Rupee (Rs. Lakhs) | Quantum in Foreign Currency | Exchange Rate on draw down date | Amount in Indian Rupee (Rs. Lakhs) |
| 1 | Loans | | | | | | | | | | | | |
| 1.1 | Foreign Loans | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 1.1.1 | Foreign Loan 1 | - | - | - | - | - | - | | | | - | - | - |
| | Draw down Amount | - | - | - | - | - | - | | | | - | - | - |
| | IDC | - | - | - | - | - | - | | | | - | - | - |
| | Financing charges | - | - | - | - | - | - | | | | - | - | - |
| | Foreign Exchange Rate Variation | - | - | - | - | - | - | | | | - | - | - |
| | Hedging Cost | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 1.1 | Total Foreign Loans | | | | | | | | | | | | |
| | Draw down Amount | | | | | | | | | | | | |
| | IDC | - | - | - | - | - | - | | | | - | - | - |
| | Financing charges | - | - | - | - | - | - | | | | - | - | - |
| | Foreign Exchange Rate Variation | - | - | - | - | - | - | | | | - | - | - |
| | Hedging Cost | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| 1.2 | Indian Loans | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 1.2.1 | Indian Loan 1 | | | | | | | | | | | | |
| | Draw down Amount | - | - | - | - | - | - | | | | - | - | - |
| | IDC | - | - | - | - | - | - | | | | - | - | - |
| | Financing charges | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 1.2 | Total Indian Loans | | | | | | | | | | | | |
| | Draw down Amount | - | - | - | - | - | - | | | | - | - | - |
| | IDC | - | - | - | - | - | - | | | | - | - | - |
| | Financing charges | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| 1 | Total of Loans drawn | | | | | | | | | | | | |
| | IDC | - | - | - | - | - | - | | | | - | - | - |
| | Financing Charges | - | - | - | - | - | - | | | | - | - | - |
| | Foeriegn Exchange Rate Variation | - | - | - | - | - | - | | | | - | - | - |
| | Hedging Cost | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| 2 | Equity | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 2.1 | Foerign Equity Drawn | - | - | - | - | - | - | | | | - | - | - |
| | | | | | | | | | | | | | |
| 2.2 | Indian Equity Drawn | - | - | 221.50 | - | - | 356.90 | - | - | 712.84 | - | - | 176.42 |
| | | | | | | | | | | | | | |
| | Total Equity Deployed | | | 221.50 | | | 578.40 | | | 1,291.24 | | | 1,467.66 |

**Note:**

1. Drawl of debt and equity shall be on pari-passu basis quarter wise to meet the commissioning schedule. Drawl of higher equity in the beginning is permissible. IDC on normative loan corresponding to excess equity over 30% of funds deployed shall be allowed only in case the actual infusion of equity on a pari-passu basis is more than 30% of total funds deployed and shall be computed on quarterly basis.

2. Applicable interest rates including reset dates used for above computation may be furnished separately

3. In case of multi unit project details of capitalization ratio used to be furnished.

4. In case IDC on normative loan is to be allowed prior to infusion of actual loan, rate of interest for computing such IDC shall be equal to 1-year SBI MCLR as prevailing on 1st April of the respective year. IDC on normative loan, post infusion of actual loan shall be computed based on WAROI for that respective quarter.

MAITHON POWER LIMITED

Petitioner

MAITHON POWER LIMITED

**Details/Information to be submitted in respect of Fuel for Computation at**

| | Name of the Company | Maithon Power Limited | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Name of the Power Station | 1050 MW Maithon Project | | | | | | | | | | | | | | | | | | | | | | | |
| Sl. No. | Month | Unit | Apr-2023 | | May-2023 | | Jun-2023 | | Jul-2023 | | Aug-2023 | | Sep-2023 | | Oct-2023 | | Nov-2023 | | Dec-2023 | | Jan-2024 | | Feb-2024 | | Mar-2024 | |
| | | | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal |
| A1 | OPENING QUANTITY | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Opening Quantity of Coal/Lignite | (MMT) | 0.237 | - | 0.293 | - | 0.42 | - | 0.65 | - | 0.85 | - | 0.45 | - | 0.44 | - | 0.27 | - | 0.24 | - | 0.44 | - | 0.91 | - | 0.46 | - |
| 2 | Value of Stock | (MMT) | 1,57,58,11,111 | - | 1,7,07,52,702 | - | 176,78,00,889 | - | 1,90,08,29,635 | - | 1,15,63,47,287 | - | 90,47,62,483 | - | 99,80,94,042 | - | 3,17,42,66,454 | - | 1,58,87,74,134 | - | 1,99,87,30,933 | - | 1,81,57,17,45 | - | 1,80,81,80,443 | - |
| B1 | QUANTITY | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Coal supplied by Coal/Lignite Company (1+2) | (MMT) | 0.4443 | - | 0.4295 | - | 0.3761 | - | 0.247 | - | 0.338 | - | 0.418 | - | 0.441 | - | 0.495 | - | 0.522 | - | 0.493 | - | 0.357 | - | 0.442 | - |
| 4 | Adjustment (+/-) in quantity supplied made by Coal/Lignite Company | (MMT) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5 | Coal supplied by Coal/Lignite Company (3+4) | (MMT) | 0.4443 | - | 0.4295 | - | 0.3761 | - | 0.2472 | - | 0.3388 | - | 0.4184 | - | 0.4413 | - | 0.4949 | - | 0.5222 | - | 0.4935 | - | 0.3573 | - | 0.4422 | - |
| 6 | Normative Transit & Handling Losses (For coal/Lignite based Projects) | (MMT) | 0.0030 | - | 0.0014 | - | 0.0030 | - | 0.0020 | - | 0.0028 | - | 0.0033 | - | 0.0035 | - | 0.0040 | - | 0.0041 | - | 0.0011 | - | 0.0029 | - | 0.0035 | - |
| 7 | Net coal / Lignite Supplied (5-6) | (MMT) | 0.4400 | - | 0.4281 | - | 0.3731 | - | 0.2452 | - | 0.2374 | - | 0.4150 | - | 0.4357 | - | 0.4909 | - | 0.5180 | - | 0.4923 | - | 0.3544 | - | 0.4386 | - |
| C1 | PRICE | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Amount charged by the Coal/Lignite Company | (Rs.) | 1,05,05,01,171 | | 1,35,92,88,125 | | 125,54,66,674 | | 65,96,21,374 | | 1,02,57,97,484 | | 1,46,10,34,097 | | 1,69,77,76,459 | | 2,01,07,21,163 | | 1,96,57,84,137 | | 1,74,42,84,736 | | 1,55,99,11,420 | | 1,61,41,68,250 | |
| 9 | Adjustment (+/-) in amount charged made by Coal/Lignite Company | (Rs.) | - | - | 11,38,910 | - | -270,17,928 | - | | | | | | | | | | | | | - | - | - | - | - | - |
| 10 | Handling, Sampling and such other similar charges | (Rs.) | 4,04,47,397.85 | | 5,39,12,273 | | 4,87,63,102 | | 3,52,25,292 | | 4,57,71,342 | | 5,20,50,910 | | 4,29,60,230 | | 5,06,29,700 | | 4,40,03,943 | | 4,56,30,109 | | 4,74,84,345 | | 4,12,65,426 | |
| 11 | Total amount Charged (8+9+10) | (Rs.) | 1,09,13,48,769.28 | | 1,41,33,39,308.53 | | 3,87,46,11,848.72 | | 69,48,46,666.74 | | 1,07,15,68,826.50 | | 1,51,31,05,007.31 | | 1,74,07,84,716.45 | | 2,06,13,50,943.73 | | 2,01,05,48,080.25 | | 1,79,00,74,845.30 | | 1,60,73,95,764.64 | | 1,65,53,33,675.92 | |
| F1 | TRANSPORATION | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Transportation charges by rail/ship/road transport | (Rs.) | 33,55,64,455 | | 35,45,51,823 | | 27,80,04,718 | | 21,17,99,078 | | 21,06,88,851 | | 24,81,96,576 | | 27,15,33,797 | | 30,14,88,176 | | 32,22,55,869 | | 26,97,87,491 | | 28,94,99,953 | | 25,51,38,885 | |
| | By Rail | | 11,63,52,950 | | 10,14,77,707 | | 11,81,75,609 | | 17,96,33,187 | | 20,92,40,977 | | 12,35,39,648 | | 9,32,72,319 | | 6,84,59,272 | | 8,54,76,733 | | 7,57,59,086 | | 9,81,79,628 | | 17,49,34,360 | |
| | By Road | | 21,91,71,505 | | 15,30,74,120 | | 16,38,45,109 | | 3,21,65,892 | | 10,14,47,874 | | 11,46,56,928 | | 18,01,61,478 | | 23,29,28,904 | | 23,67,79,136 | | 19,41,87,405 | | 19,13,21,325 | | 18,02,04,525 | |
| | By Ship | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | 33,55,64,455 | | 25,45,51,827 | | 27,80,04,718 | | 21,17,99,079 | | 21,06,88,851 | | 24,81,96,376 | | 27,15,33,797 | | 30,14,88,176 | | 32,22,55,869 | | 26,97,87,491 | | 28,94,99,953 | | 25,51,38,885 |
| 13 | Adjustment (+/-) in amount charged made by Railway/Transport Company | (Rs.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 14 | Demurrage Charges if any | (Rs.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 15 | Cost of diesel in transporting coal through MGR system, if applicable | Rs/Ton | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 16 | **Total Transportation Charges (12+13+14+15)** | | | **33,55,64,455** | | **25,45,51,823** | | **27,80,04,718** | | **21,17,99,079** | | **21,06,88,851** | | **24,81,96,376** | | **27,15,33,797** | | **30,14,88,176** | | **32,22,55,869** | | **26,97,87,491** | | **28,94,99,953** | | **25,51,38,885** |
| 17 | **Total amount Charged for coal/lignite supplied including Transportation (11+16)** | (MT) | | **1,82,47,13,224.83** | | **1,76,78,91,139.04** | | **1,55,46,16,566.77** | | **90,66,45,744.66** | | **1,28,22,57,677.85** | | **1,76,13,01,382.98** | | **2,01,22,78,513.19** | | **2,36,39,39,118.32** | | **2,33,28,03,949.82** | | **1,85,98,62,336.53** | | **1,89,76,55,717.76** | | **2,01,08,72,161.16** | |
| G2 | TOTAL COST | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | **Landed cost of coal/ Lignite (2+17)/(1+7)** | (Rs./Ton) | | **4,375.20** | | **4,257.54** | | **4,214.59** | | **4,032.49** | | **3,971.83** | | **4,141.44** | | **4,422.82** | | **4,676.13** | | **4,571.72** | | **4,162.76** | | **4,306.75** | | **4,766.38** |
| 19 | Blending Ratio (Domestic/Imported) | (Domestic (%)/Imported (%)) | 100% | 0% | 100% | 0% | 100% | 0% | | | | | | | | | | | | | | | | | | |
| 20 | Weighted average cost of coal/ Lignite for preceding three months | | 4,639.64 | | 4,527.22 | | 4,412.54 | | 4,281.76 | | 4,174.71 | | 4,082.60 | | 4,049.92 | | 4,104.80 | | 4,824.01 | | 4,761.85 | | 4,634.92 | | 4,730.97 | |
| F2 | QUALITY | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | GCV of Domestic Coal of the opening coal stock as per bill of Coal Company | (Kcal/Kg) | 4,930 | | 4,928 | | 4,866 | | 4,931 | | 4,736 | | 4,947 | | 5,021 | | 5,009 | | 4,993 | | 4,901 | | 5,021 | | 5,139 | |
| 22 | GCV of Domestic Coal supplied as per bill of Coal Company | (Kcal/Kg) | 4,928 | | 4,866 | | 4,931 | | 4,756 | | 4,947 | | 5,021 | | 5,009 | | 4,993 | | 4,901 | | 5,021 | | 5,139 | | 5,029 | |
| 23 | GCV of Imported Coal of the opening stock as per bill Coal Company | (Kcal/Kg) | | - | | | | | | | | | | | | | | | | | | | | | | |
| 24 | GCV of Imported Coal supplied as per bill Coal Company | (Kcal/Kg) | | - | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Weighted average GCV of coal/ Lignite as Billed | (Kcal/Kg) | | 4,932 | | 4,895 | | 4,897 | | 4,869 | | 4,857 | | 4,993 | | 5,013 | | 4,998 | | 4,906 | | 5,000 | | 5,077 | | 5,074 |
| 26 | GCV of Domestic Coal of the opening stock as received at Station | (Kcal/Kg) | 4,182.20 | | 4,191 | | 4,123.23 | | 4,143.51 | | 4,022.84 | | 4,059.23 | | 3,991.06 | | 3,908.58 | | 3,998.10 | | 3,955.74 | | 4,010.08 | | 4,129.38 | |
| 27 | GCV of Domestic Coal supplied as received at Station | (Kcal/Kg) | 4,197.97 | | 4,061 | | 4,166.09 | | 3,799.43 | | 4,093.14 | | 3,949.68 | | 3,861.40 | | 3,954.19 | | 3,967.20 | | 4,115.01 | | 4,240.57 | | 3,979.24 | |
| 28 | GCV of Imported Coal of opening stock as received at Station | (Kcal/Kg) | - | - | - | - | - | - | | | | | | | | | | | | | | | | | | |
| 29 | GCV of Imported Coal supplied as received at Station | (Kcal/Kg) | | - | | - | | - | | | | | | | | | | | | | | | | | | |
| 30 | **Weighted average GCV of coal/ Lignite as received** | (Kcal/Kg) | | **4,191.17** | | **4,122.97** | | **4,149.60** | | **4,021.81** | | **4,059.67** | | **3,990.70** | | **3,908.34** | | **3,938.26** | | **3,955.80** | | **4,011.19** | | **4,129.80** | | **4,041.86** |

MAITHON POWER LIMITED

**Petitioner**

MAITHON POWER LIMITED

**Details/Information to be Submitted in respect of Fuel for Computation of Energy Charges[1] - Form-15-Oil**

**Name of the Company** Maithon Power Limited
**Name of the Power Station** 1050 MW Maithon Project

| Sl. No. | Month | Unit | Apr-2023 | | May-2023 | | Jun-2023 | | Jul-2023 | | Aug-2023 | | Sep-2023 | | Oct-2023 | | Nov-2023 | | Dec-2023 | | Jan-2024 | | Feb-2024 | | Mar-2024 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Domestic | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal |
| A) | OPENING QUANTITY | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Opening Quantity of Oil | (KL) | 942.815 | - | 1,029.869 | | 1,074.869 | - | 1,027.166 | - | 1,123.282 | - | 1,022.672 | - | 971.071 | - | 824.811 | - | 1,052.707 | - | 1,037.807 | - | 1,024.007 | - | 964.23 | - |
| 2 | Value of Stock | (Rs.) | 5,90,88,348 | | 6,33,61,453 | | 6,67,30,046 | | 6,28,66,940 | | 6,82,89,656 | | 6,27,05,606 | | 5,95,93,838 | | 5,01,59,456 | | 6,56,77,884 | | 6,46,64,749 | | 6,36,12,484 | | 6,00,90,528 | |
| B) | QUANTITY | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Oil supplied by Oil Company (1+2) | (KL) | 147.0741 | - | 45.0000 | - | 97.9158 | - | 179.7598 | - | 73.0000 | - | - | - | - | - | 227.8958 | - | - | - | - | - | - | - | 133.327 | - |
| 4 | Adjustment (+/-) in quantity supplied made by Oil Company | (KL) | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | - | - |
| 5 | Oil supplied by Oil Company (3+4) | (KL) | 147.0741 | - | 45.0000 | - | 97.9158 | - | 179.7598 | - | 73.0000 | - | - | - | - | - | 227.8958 | - | - | - | - | - | - | - | 133.3267 | - |
| 6 | Normative Transit & Handling Losses (For coal/Lignite based Projects) | (KL) | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | - | - |
| 7 | Net Oil Supplied (3-6) | (KL) | 147.0741 | - | 45.0000 | - | 97.9158 | - | 179.7598 | - | 73.0000 | - | - | - | - | - | 227.8958 | - | - | - | - | - | - | - | 133.3267 | - |
| C) | PRICE | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Amount charged by the Oil Company | (Rs.) | 79,68,355 | | 33,38,660 | | 59,49,729 | | 1,12,01,096 | | 57,20,539 | | - | | - | | 1,53,44,883 | | - | | - | | - | | 79,15,060 | |
| 9 | Adjustment (+/-) in amount charged made by Oil Company | (Rs.) | | - | | - | | - | | | | | | | | | | | | | | | | - | - | - |
| 10 | Handling, Sampling and such other similar charges | (Rs.) | | | | | | | | | | | | | | | | | | | | | | | - | |
| 11 | **Total amount Charged (8+9+10)** | **(Rs.)** | **79,68,354.64** | **-** | **33,38,659.85** | **-** | **59,49,728.68** | **-** | **1,12,01,095.66** | **-** | **57,20,539.32** | **-** | **-** | **-** | **-** | **-** | **1,53,44,883.24** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **79,15,060.14** | |
| D) | TRANSPORATION | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Transportation charges by rail/ship/road transport | (Rs.) | 1,15,589 | | 35,438 | | 77,018 | | 1,41,372 | | 57,488 | | - | | - | | 1,79,204 | | - | | - | | - | | 1,11,770 | |
| | By Rail | | | | | | | | | | | | | | | | | | | | | | | | - | |
| | By Road | | | | | | | | | | | | | | | | | | | | | | | | - | |
| | By Ship | | | | | | | - | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | - | |
| 13 | Adjustment (+/-) in amount charged made by Railways/Transport Company | (Rs.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 14 | Demurrage Charges, if any | (Rs.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 15 | Cost of diesel in transporting Oil through MGR system, if applicable | (Rs.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 16 | **Total Transportation Charges (12+13+14+15)** | | **1,15,589** | **-** | **35,438** | **-** | **77,018** | **-** | **1,41,372** | **-** | **57,488** | **-** | **-** | **-** | **-** | **-** | **1,79,204** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **1,11,770** | |
| 17 | **Total amount Charged for Oil supplied including Transportation (11+16)** | **(Rs.)** | **80,83,943.89** | **-** | **33,74,097.35** | **-** | **60,26,746.18** | **-** | **1,13,42,467.66** | **-** | **57,78,026.82** | **-** | **-** | **-** | **-** | **-** | **1,55,24,086.74** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **80,26,830.54** | |
| E) | TOTAL COST | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | **Landed cost of Oil (2+17)/(1+7)** | **(Rs./ml)** | **0.062** | | **0.062** | | **0.062** | | **0.061** | | **0.062** | | **0.061** | | **0.061** | | **0.062** | | **0.062** | | **0.062** | | **0.062** | | **0.062** | |
| 19 | Blending Ratio (Domestic/Imported) | Domestic(%)/Importe | | 0% | | 0% | | 0% | | | | | | | | | | | | | | | | | | |
| 20 | Weighted average cost of Oil for preceding three months | | | | | | | | | | | | | | | | | | | | | | | | | |
| F) | QUALITY | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | GCV of Domestic Oil of the opening stock as per bill of OilCompany | (kCal/L) | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | |
| 22 | GCV of Domestic Oil supplied as per bill of Oil Company | (kCal/L) | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | |
| 23 | GCV of Imported Oil of the opening stock as per bill Oil Company | (kCal/L) | | - | | | | | | | | | | | | | | | | | | | | | | |
| 24 | GCV of Imported Oil supplied as per bill Oil Company | (kCal/L) | | - | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Weighted average GCV of Oil as Billed | (Kcal/L) | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | | 9,100 | |

MAITHON POWER LIMITED

**Details/Information to be Submitted in respect of Fuel for Computation of Energy Charges[1] - Form-15-Oil**

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Name of the Company | Maithon Power Limited | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Name of the Power Station | 1050 MW Maithon Project | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sl. No. | Month | Unit | Apr-2023 | | May-2023 | | Jun-2023 | | Jul-2023 | | Aug-2023 | | Sep-2023 | | Oct-2023 | | Nov-2023 | | Dec-2023 | | Jan-2024 | | Feb-2024 | | Mar-2024 | |
| | | | Domestic | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal | Domestic Coal | Imported Coal |
| 26 | GCV of Domestic Oil of the opening stock as received at Station | (kCal/L) | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | |
| 27 | GCV of Domestic Oil supplied as received at Station | (kCal/L) | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | | 9,100.00 | |
| 28 | GCV of Imported Oil of opening stock as received at Station | (kCal/L) | | - | | - | | - | | | | | | | | | | | | | | | | | | |
| 29 | GCV of Imported Oil supplied as received at Station | (kCal/L) | | - | | - | | - | | | | | | | | | | | | | | | | | | |
| 30 | **Weighted average GCV of Oil as received** | (kCal/L) | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | | **9,100.00** | |

MAITHON POWER LIMITED * MAITHON *

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

**Details of Limestone for Computation of Energy Charge Rate** **Form-16**

| | |
|---|---|
| **Name of the Petitioner** | Maithon Power Limited |
| **Name of the Generating Station** | 1050 MW Maithon Project |

| S. No. | Month | Unit | For preceding 3rd Month (from COD or from 1.4.2024 as the case may be ) | For preceding 2nd Month (from COD or from 1.4.2024 as the case may be ) | For preceding |
|---|---|---|---|---|---|
| 1 | Quantity of Limestone supplied by Limestone supply Company | (MMT) | **Not Applicable** | | |
| 2 | Adjustment (+/-) in quantity supplied made by Limestone supply Company | (MMT) | | | |
| 3 | Limestone supplied by Limestone supply Company(1+2) | (MMT) | | | |
| 4 | Net Limestone Supplied (3-4) | (MMT) | | | |
| 5 | Amount charged by the Limestone supply Company | (Rs.) | | | |
| 6 | Adjustment (+/-) in amount charged made by Limestone supply Company | (Rs.) | | | |
| 7 | Total amount Charged (6+7) | (Rs.) | | | |
| 8 | Transportation charges by rail/ship/road transport | (Rs.) | | | |
| 9 | Adjustment (+/-) in amount charged made by Railways/Transport Company | (Rs.) | | | |
| 10 | Demurrage Charges, if any | (Rs.) | | | |
| 11 | Total Transportation Charges (8+/-9-10) | (Rs.) | | | |
| 12 | Total amount Charged for Limestone supplied including Transportation (7+11) | (Rs.) | | | |

**Petitioner**

MAITHON POWER LIMITED * MAITHON *

MAITHON POWER LIMITED * MAITHON *

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Installed Capacity | | | 1050 | 1050 | | 1050 | 1050 | 1050 |
| **Computation of Energy Charges** | | | | | | | | |
| **Name of the Company** | | Maithon Power Limited | | | | | **ADDITIONAL FORM** | |
| **Name of the Power Station** | | 1050 MW Maithon Project | | | | | **(In Addition to FORM-O)** | |
| Norms | | | | | | | | |
| **Sr.No.** | Description | UoM | 13-01-2025 to 31-03-2025 | 01.04.2025 to 30.12.2025 | 31.12.2025 to 31.03.2026 | 2026-27 | 2027-28 | 2028-29 |
| | | | | | | | | |
| 1 | **Normative Parameters** | | | | | | | |
| | Sp. Oil consumption | ml/kwh | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| | Auxiliary consumption | % | 5.75% | 5.75% | 5.75% | 5.75% | 5.75% | 5.75% |
| | Heat Rate | Kcal/Kwh | 2363 | 2363 | 2363 | 2363 | 2363 | 2363 |
| | Revised Heat Rate | Kcal/Kwh | 2385.59 | 2385.59 | 2385.59 | 2385.59 | 2385.59 | 2385.59 |
| | | | | | | | | |
| 2 | **Computation of Variable Charges** | | | | | | | |
| | | **Unit** | | | | | | |
| | Variable Charge (Coal) | Rs/kwh | 2.814 | 2.814 | 2.814 | 2.814 | 2.814 | 2.814 |
| | Variable Charge (Oil) | Rs/kwh | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 |
| | **Total** | Rs/kwh | 2.847 | 2.847 | 2.847 | 2.847 | 2.847 | 2.847 |
| | | | | | | | | |
| | **Revised Variable Charges** | | | | | | | |
| | | **Unit** | | | | | | |
| | Variable Charge (Coal) | Rs/kwh | 2.840 | 2.840 | 2.840 | 2.840 | 2.840 | 2.840 |
| | Variable Charge (Oil) | Rs/kwh | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 |
| 3 | **Total** | Rs/kwh | 2.873 | 2.873 | 2.873 | 2.873 | 2.873 | 2.873 |
| | | | | | | | | |
| | Coal Cost | (Rs./MT) | 4446.76 | 4446.76 | 4446.76 | 4446.76 | 4446.76 | 4446.76 |
| | Oil Cost | (Rs./KL) | 61948.38 | 61948.38 | 61948.38 | 61948.38 | 61948.38 | 61948.38 |
| | | | | | | | | |
| 4 | **Computation of Fuel Expenses for** | | | | | | | |
| | | | | | | | | |
| | Net Generation for the FY | (MU) | 3684.37 | 3684.37 | 7368.75 | 7368.75 | 7368.75 | 7368.75 |
| | Additional Variable cost for the FY | (Rs. Lakh) | 975.37 | 975.37 | 1950.74 | 1950.74 | 1950.74 | 1950.74 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | **Coal** | | **Apr'23** | **May'23** | **Jun'23** | | **Wt.Avg.** |
| | Coal Receipt | MT | 4,40,778 | 4,26,052 | 3,73,098 | | 48,59,619 |
| | Wtd. Avg. Price of Coal | Rs/MT | 4,375 | 4,258 | 4,215 | | 4,446.76 |
| | Wtd. Avg. GCV of Coal as received | kCal/kg | 4,191 | 4,123 | 4,144 | | 3,954.99 |
| | **Sec. Oil** | | | | | | |
| | Oil Receipt | KL | 147 | 45 | 98 | | 904 |
| | Wtd. Avg. Price of Secondary Fuel | Rs/KL | 61,632 | 62,087 | 62,038 | | 61,948.38 |
| | Wtd. Avg. GCV of Secondary Fuel | kCal/L | 9,100 | 9,100 | 9,100 | | 9,100.00 |
| | | | | | | | |
| | **Coal** | | **Jul'23** | **Aug'23** | **Sep'23** | | |
| | Coal Receipt | MT | 2,45,234 | 3,27,370 | 4,15,041 | | |
| | Wtd. Avg. Price of Coal | Rs/MT | 4,032 | 3,972 | 4,141 | | |
| | Wtd. Avg. GCV of Coal as received | kCal/kg | 4,022 | 4,060 | 3,991 | | |
| | **Sec. Oil** | | | | | | |
| | Oil Receipt | KL | 180 | 73 | - | | |
| | Wtd. Avg. Price of Secondary Fuel | Rs/KL | 61,486 | 61,915 | 61,315 | | |
| | Wtd. Avg. GCV of Secondary Fuel | kCal/L | 9,101 | 9,102 | 9,103 | | |
| | | | | | | | |
| | **Coal** | | **Oct'23** | **Nov'23** | **Dec'23** | | |
| | Coal Receipt | MT | 4,39,705 | 4,90,935 | 5,18,029 | | |
| | Wtd. Avg. Price of Coal | Rs/MT | 4,422 | 4,676 | 4,572 | | |
| | Wtd. Avg. GCV of Coal as received | kCal/kg | 3,908 | 3,938 | 3,956 | | |
| | **Sec. Oil** | | | | | | |
| | Oil Receipt | KL | - | 228 | - | | |
| | Wtd. Avg. Price of Secondary Fuel | Rs/KL | 61,369 | 62,395 | 62,390 | | |
| | Wtd. Avg. GCV of Secondary Fuel | kCal/L | 9,104 | 9,105 | 9,106 | | |

MAITHON POWER LIMITED

| Installed Capacity | | | 1050 | 1050 | | 1050 | 1050 | 1050 |
|---|---|---|---|---|---|---|---|---|
| **Computation of Energy Charges** | | | | | | | | |
| **Name of the Company** | | Maithon Power Limited | | | | | **ADDITIONAL FORM** | |
| **Name of the Power Station** | | 1050 MW Maithon Project | | | | | **(In Addition to FORM-O)** | |
| Norms | | | | | | | | |
| **Sr.No.** | Description | UoM | **13-01-2025 to 31-03-2025** | **01.04.2025 to 30.12.2025** | **31.12.2025 to 31.03.2026** | **2026-27** | **2027-28** | **2028-29** |
| | **Coal** | | **Jan'24** | **Feb'24** | **Mar'24** | | | |
| | Coal Receipt | MT | 3,90,338 | 3,54,426 | 4,38,615 | | | |
| | Wtd. Avg. Price of Coal | Rs/MT | 4,663 | 4,987 | 4,766 | | | |
| | Wtd. Avg. GCV of Coal as received | kCal/kg | 4,031 | 4,130 | 4,042 | | | |
| | **Sec. Oil** | | | | | | | |
| | Oil Receipt | KL | - | - | 133 | | | |
| | Wtd. Avg. Price of Secondary Fuel | Rs/KL | 62,309 | 62,121 | 62,063 | | | |
| | Wtd. Avg. GCV of Secondary Fuel | kCal/L | 9,107 | 9,108 | 9,109 | | | |

MAITHON POWER LIMITED MAITHON

**Petitioner**

MAITHON POWER LIMITED MAITHON

MPL
MAITHON POWER LIMITED

Date: 18th March 2025

**CERTIFICATE**

This Certificate is for submission before the Central Electricity Regulatory Commission (CERC) in compliance with Regulation 3(18) of CERC Tariff Regulations 2024.

This is to certify that the Emission Control System (ECS) has been successfully commissioned and put into use in Unit No. 2 of Maithon Power Limited (MPL), District: Dhanbad, Jharkhand as per the details below after meeting the applicable technical and environmental standards as specified by Ministry of Environment, Forest and Climate Change (MoEF & CC):

| Unit No | Capacity (MW) | Name of ECS Scheme | Date of Operation |
|---|---|---|---|
| Unit # 2 | 525 MW | NOx Emission Abatement (De-NOx) System / Combustion Modification | 13.01.2025 |

Chairperson & Director
Maithon Power Limited



//TRUE COPY //

# ANNEXURE-P/8

MAITHON POWER LIMITED

Letter No: MPL/FY24/23-03/004 Date: 03.04.2023

To,
The Chairman & Managing Director,
Kerala State Electricity Board Limited,
Vydyuthi Bhavanam, 7th Floor, Pattom,
Thiruvananthapuram, Kerala-695004

**Subject**: Regarding installation of NOx abatement systems in order to comply with the revised emission standards.

**Reference**:

A. Hon'ble CERC Order dated 16.12.2022 in Petition No. 606/MP/2020 granting in-principle approval for installation of De-NOx System.
B. Regulation 29 of the of the CERC (Terms & Conditions for Determination of Tariff) Regulations, 2019 ("**Tariff Regulations**").
C. Ministry of Environment, Forest and Climatic Change notification No. S.O.3305 (E) dated 07.12.2015 as amended from time to time.
D. Power Purchase Agreement dated 30.12.2013 & 29.06.2015 executed between Maithon Power Limited and Kerala State Electricity Board Limited.

Dear Sir,

1. We, Maithon Power Limited ("**MPL**"), operate a thermal power plant having an installed capacity of 1050 MW (2x525MW) ("**Power Plant**") located at district Dhanbad in the State of Jharkhand. MPL had commissioned Unit 1 on 01.09.2011 and Unit 2 on 24.07.2012. Presently, MPL is supplying 300 MW of power to Kerala State Electricity Board Limited ("**KSEBL**") as per the terms of Power Purchase Agreement dated 30.12.2013 & 29.06.2015.

2. As you may be aware, Ministry of Environment, Forest and Climatic Change ("**MoEFCC**"), vide its notification dated 07.12.2015 ("**2015 Notification**") issued the Environment (Protection) Amendment Rules, 2015 ("**Amendment Rules**") amending /introducing certain emission norms which are to be complied with, by all the thermal power plants operating within the country.

3. As per the terms of the Amendment Rules, Thermal Power Plants ("**TPP's**"), based on their installation date had to comply with the revised emissions norms within two (2) years from the date of the issuance of the said 2015 Notification. However, the timelines for compliance for MPL now stand revised to **December 2024** as per MoEFCC Notification dated 05.09.2022 for Power Plant falling under Category '**C**'.


A Joint Venture of TATA POWER & DVC
**Registered Office** : Corporate Center, 34 Sant Tukaram Road, Carnac Bunder, Mumbai 400 009, Tel: 91 22 67171232
**Works** : Village Dambhui, P.O.Barbindia, P.S.Nirsa, District Dhanbad 828 205, Jharkhand
Tel: +91 6540 278001/50 Fax: +91 6540 278040/ +91 8860075658
**Corporate Identity Number (CIN)** : U74899MH2000PLC267297, **Website Address** : www.tatapower.com/mpl

MAITHON POWER LIMITED

4. Further, MPL, in order to timely comply with the new norms for NOx emission, submitted pre-feasibility Study for proposed NOx abatement system to Central Electricity Authority ("**CEA**") on 05.11.2018. Based on prices indicated by bidders in the bidding process for installation of NOx abatement system, MPL had revised the Feasibility Report and submitted it to CEA on 30.04.2020. Accordingly, CEA vide its letter dated 19.06.2020, has accorded its approval ("**CEA Approval**") to go ahead with NOx abatement system for meeting the norm of 450 mg/Nm3 in line with the in-principle approval of the Hon'ble Supreme Court and to approach the Hon'ble CERC for approval of tariff implication. A copy of the CEA Approval is enclosed herewith and marked as **Annexure 1**.

5. Pursuant to above approval, MPL filed Miscellaneous Petition No. 606/MP/2020 on 01.08.2020 before Hon'ble CERC seeking in-principle approval to incur the expenditures and approval of proposed cost subject to true-up after due prudence check.

6. On 16.12.2022, the Hon'ble CERC passed the order granting in principle approval for implementation of "*In Combustion Technology*' for the Power Plant (2X 525 MW) but deferred approval of the cost for the De-NOx System at this stage and has further directed MPL to adopt prudent methods of transparent competitive bidding and arrive at more economical and reasonable capital/ hard cost of the NOx control system in the interest of beneficiaries and the consumers and to adhere to the timelines stipulated by MoEFCC in consultation with the beneficiaries. By this time, the bid validity had also expired. The relevant extract of the order dated 16.12.2022 is given as below for your ready reference. A copy of the CERC Order is enclosed herewith and marked as **Annexure 2.**

   *"35. As the hard cost of NOx control system claimed by the Petitioner is much higher, we are not inclined to approve the same at this stage.* ***The Petitioner is directed to adopt prudent methods of transparent competitive bidding and arrive at more economical and reasonable capital/ hard cost of the NOx control system in the interest of beneficiaries and the consumers.*** *However, we accord "in-principle" approval for implementation of 'In Combustion Technology' in its generating station (2x 525 MW) and the Petitioner is granted liberty to approach the Commission after of the implementation of 'In Combustion Technology' for further consideration in accordance with Regulation 29(4) of the 2019 Tariff Regulations.* ***Further, the Petitioner is directed to proceed for implementation NOx abatement system in line with the timelines issued by the MoEF & CC from the time to time, in consultation with the beneficiaries.****"*

7. In compliance of the above directions and in order to arrive at more economical cost, MPL, has initiated fresh bidding for the installation of NOx system and is requesting your participation in the bidding process. The bidding process has started and the EOI/NIT was published on 5th Jan 2023 to which we have received four responses .



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MAITHON POWER LIMITED

However, due to time taken in answering a lot of pre-bid queries, site visits by prospective bidders and time extension for bid submission sought by bidders, which is in the interest of wider participation for discovery of more economical cost, the process of bidding up to award is realistically expected to be completed by July 2023. Accordingly, the schedule of completion has been prepared which is 12 months and 14 months to get commissioning completed by September 2024. The Schedule is annexed herewith and marked as **Annexure 3**. This minimum schedule is subject to actual shutdown period finalised in consultation with beneficiaries/RLDC and any other reason beyond the control of MPL.

8. It is further submitted that the tariff impact as required under Regulation 29 of Tariff Regulations 2019 shall be communicated once the price discovery is over through the above transparent bidding process and after taking into consideration the associated soft cost and the revised timelines as specified by MoEFCC. It may, however, be noted that as one additional shutdown would be required in FY 2023-24 to comply with the said timeline of December 2024, there would be implication of opportunity cost of one month shutdown for one Unit.

In light of the above, MPL requests you to nominate your representative to participate in the bidding process and also to share your comments, if any, on the bidding process/schedule of completion for installation of NOx abatement system. MPL shall keep you posted on next step of bidding process alongwith date, time and place. However, in case of no comments/or no participation in the bidding process, the same shall be considered as a deemed consent from your end to go ahead with the price so discovered through the Transparent bidding process and the timelines as agreed by the bidders.

Thanking You

Yours faithfully,
**For Maithon Power Limited**

**Vijayant Ranjan**
**CEO-MPL**


A Joint Venture of TATA POWER & DVC
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MAITHON POWER LIMITED

MPL/FY24/23-07/008 Date: 15.07.2023

To,
The Chairman,
Damodar Valley Corporation,
DVC Towers, VIP Road,
Kolkata – 700054

**Subject**: Regarding installation of NOx abatement systems to comply with the revised emission standards.

**Reference**:

A. Hon'ble CERC Order dated 16.12.2022 in Petition No. 606/MP/2020 granting in-principle approval for installation of De-NOx System.
B. Regulation 29 of the of the CERC (Terms & Conditions for Determination of Tariff) Regulations, 2019 ("**Tariff Regulations**").
C. Ministry of Environment, Forest, and Climatic Change notification No. S.O.3305 (E) dated 07.12.2015 as amended from time to time.
D. Power Purchase Agreement dated 28.09.2006 read with Supplementary Agreement dated 24.01.2017 executed between Maithon Power Limited and Damodar Valley Corporation.
E. Our letter MPL/FY24/23-03/001 dated 03.04.2023 informing you regarding status of installation of NOx abatement system to comply to new norms.

Dear Sir

In compliance to CERC order dated 16th December 2022 regarding the execution of De-NOx project at MPL, we had initiated fresh bids which has already been communicated to you by our letter dated 3rd April 2023. Further to our bid request, two parties namely GE and BHEL have expressed interest and submitted their bids. We have evaluated the technical bids, and both are found to be acceptable.

Before we proceed for evaluation of commercial bids and negotiations it is pertinent to decide up on the timelines for execution of the project to be communicated to bidders for submission of their commercial bids.

As you are already aware the timelines mandated by the MOEF&CC is December 2024. However, a substantial period has been lost due to the re-tendering process, pre-bid queries, site visits by prospective bidders and time extension for bid submission sought by bidders, which was in the interest of wider participation for discovering an economical cost. Additionally, we also need time for a detailed engineering study with the vendor who shall be executing this project hence the delivery period as initially committed by the bidders is 9 months from the award of the purchase order. Due to the fore going reasons De-NOx project execution in FY24 shall not be feasible. Also, as per our experience from the last three years it is highly likely that the months of April/May & June 2024 shall be declared as "High Demand Season" by ERPC (notification expected in September 2023), as such availing shutdown during this period would not be prudent given the fact that all our beneficiaries would need reliable as well as cost effective power to meet their power requirements.

Thus, the only time left with us is July 2024-December 2024. As such we have planned for an annual shut down of Unit #2 in July 2024 wherein the De-NOx project shall also be implemented. Since the overhauling of a Unit #2 and its stabilization would take around 45-50 days, we shall not have enough time to complete De-NOx project in Unit#1 within the timeline of December'24. Moreover, there are other constraints like meeting the normative availability during the "Low Demand Season" (assuming Low demand season of July'24 to March'25), refurbishment of spares taken out from Unit #2 and to be used in Unit #1, incurring of avoidable opportunity costs etc.

Consequently, in the best interest of our esteemed beneficiaries, it is proposed to carry out the execution of Unit #1 De-NOx project in July 2025 for reasons stated above. This shall enable us to provide reliable and cost-effective power as per the needs of the beneficiaries. It is further submitted that the tariff/consequent cost impact as required under Regulation 29 of Tariff Regulations 2019 shall be communicated once the price discovery is completed through transparent bidding process and after taking into consideration the associated soft cost.

In light of the above, we solicit your comments, if any, on the schedule of completion for installation of NOx abatement system at MPL within a week's time. In case of no comments are received from your end, the same shall be considered as a deemed consent from your end to go ahead with the price discovered by means of a transparent bidding process and the timelines as agreed by the bidders. Rest assured we shall continue to work in the best interest of our beneficiaries.

Thanking You

**For Maithon Power Limited**

Vijayant Ranjan
CEO-MPL

**Enclosures:**

i) MoP letter dated 19.06.2020.
ii) CERC order dated 16.12.2022
iii) Schedule for execution of De-NOx project
iv) MPL letter no. MPL/FY24/23-03/001 dated 03.04.2023

S.R. BATLIBOI & CO. LLP
Chartered Accountants

22, Camac Street
3rd Floor, Block 'B'
Kolkata – 700 016, India
Tel: +91 33 6134 4000

**Independent Auditor's Report on capital expenditure incurred and gross block as at the date of commercial operation in respect of the NOx abatement System (De-Nox) of Unit 2, as per the requirements of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024**

To
The Board of Directors
Maithon Power Limited
Corporate Center
34, Sant Tukaram Road,
Carnac Bunder, Mumbai- 400009

1. This Report is issued in accordance with the terms of our service scope letter dated April 3, 2025 and Master Engagement Agreement dated October 13, 2022, as amended with Maithon Power Limited (hereinafter the "Company")

2. At the request of the management, we, the statutory auditors of the Company, have examined the accompanying Statement of capital expenditure as on the date of commercial operation of the NOx abatement System ('De-Nox') of Unit 2 (hereinafter referred to as the "Annexure 1") and Statement of gross block of De-Nox as on the date of commercial operation (hereinafter referred to as "Annexure 2") (Annexure 1 and Annexure 2 hereinafter are collectively referred to as "Statements"), which we have initialled for identification purposes only.

3. The Company intends to submit the accompanying Statements for consideration of and evaluation by the Central Electricity Regulatory Commission (CERC) in connection with application for determination of supplementary tariff for the emission control system to be filed by the Company as required by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 ("CERC Regulation").

**Management's Responsibility**

4. The preparation of the accompanying Statements is the responsibility of the management of the Company including the preparation and maintenance of all accounting and other relevant supporting records and documents. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the Statements and applying an appropriate basis of preparation and making estimates that are reasonable in the circumstances.

5. The Management is responsible for ensuring that the Company complies with the requirements of the CERC Regulations and for providing all relevant information to the CERC.

**Auditor's Responsibility**

6. Pursuant to the request of the Company for its onward submission to CERC as mentioned in paragraph 3 above, it is our responsibility to provide a limited assurance in the form of a conclusion based on our examination, whether details in the Statements in respect of the capital expenditure incurred for Unit 2 of De-Nox and gross block upto the date of commercial operation of the aforesaid unit are in agreement with the underlying unaudited books of account and records of the Company as provided to us by the management for the period upto the date of capitalization.

7. We have performed a limited review of the unaudited standalone financial results of the Company for the quarter and nine months ended December 31, 2024, prepared by the Company pursuant to the requirements of Regulation 52 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, as amended, and issued an unmodified conclusion dated January 16, 2025. Our review of these unaudited standalone financial results was conducted in accordance with the Standard on Review Engagements (SRE) 2410, "Review of Interim Financial Information Performed by the Independent Auditor of the Entity", issued by the Institute of Chartered Accountants of India ("ICAI"). We have neither audited nor reviewed any financial statements / financial results of the Company as of any date or for any period subsequent to December 31, 2024. Accordingly, we express no opinion or conclusion on the financial statements / financial results of the Company as of any date or for any period subsequent to December 31, 2024.

8. We conducted our examination of the Statements in accordance with the requirements of the Guidance Note on Reports or Certificates for Special Purposes issued by the Institute of Chartered Accountants of India ("ICAI"). The Guidance Note requires that we comply with the ethical requirements of the Code of Ethics issued by the ICAI.

9. We have complied with the relevant applicable requirements of the Standard on Quality Control (SQC) 1, Quality Control for Firms that Perform Audits and Reviews of Historical Financial Information, and Other Assurance and Related Services Engagements.

10. Our scope of work did not involve us performing audit tests for the purpose of expressing an opinion on the fairness or accuracy of the amounts reported in the Statements. We have not performed an audit, the objective of which would be the expression of an opinion on the financial results, specified elements, accounts or items thereof, for the Company taken as a whole. Accordingly, we do not express such audit opinion.

11. A limited assurance engagement involves performing procedures to obtain sufficient appropriate evidence on the Reporting Criteria mentioned in paragraph 6 above. The procedures performed vary in nature and timing from and are less extent than for, a reasonable assurance. Consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

12. We have performed the following procedures in relation to the Statements:

With respect to Annexure 1:-

a. Obtained listing of the total cost capitalized for De-Nox upto date of commercial operation as provided by the management. For this purpose, the date of commercial operation is as certified by the management, and we have not performed any further procedures to verify the same.

b. Obtained the fixed assets register maintained by the Company and traced the total cost capitalized for De-Nox till the date of commercial operation as per the listing obtained in 12(a) above to the fixed assets register.

c. On a test basis, examined purchase orders and vendor invoices as provided to us by the Company with respect to cost capitalized and traced the amounts in the listing obtained to the aforesaid underlying documentation for such samples. We have not performed any physical verification procedures with respect to the De-NOx capitalisation.

d. Performed necessary enquires with the management and obtained necessary representations.

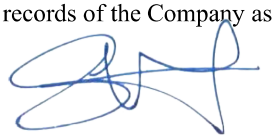
With respect to Annexure 2:-

a. Traced the amount of gross block for De-Nox till the date of commercial operation to the total cost capitalized in Annexure 1 of the Statements. The classification of the asset as "Steam electric NHRB & waste heat recovery boilers" as per Appendix 1 - Depreciation Schedule to the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 is as certified by the management.

b. Performed necessary enquires with the management and obtained necessary representations.

**Conclusion**

13. Based on procedures performed by us, and according to the information and explanations given to us by the management and representations obtained, nothing has come to our attention that causes us to believe that the details provided in the Statements in respect of the capital expenditure incurred for Unit 2 of De-Nox and gross block of De-Nox upto the date of commercial operation of the aforesaid unit, read together with explanatory notes thereon, are not in agreement with underlying unaudited books of account and records of the Company as provided to us by the management for the period upto the date of capitalization.



S.R. BATLIBOI & CO. LLP
Chartered Accountants

**Restriction on Use**

14. This report has been issued at the request of the Company, solely in connection with the purpose mentioned in paragraph 3 above and should not be used by any other person or for any other purpose. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

For **S.R. Batliboi & CO. LLP**
Chartered Accountants
**ICAI Firm Registration Number:** 301003E/E300005

SANJAY KUMAR AGARWAL

Digitally signed by SANJAY KUMAR AGARWAL
DN: cn=SANJAY KUMAR AGARWAL, c=IN, o=PERSONAL, email=SANJU.AGARWAL@SRB.IN
Date: 2025.04.11 16:42:14 +05'30'

**per Sanjay Kumar Agarwal**
Partner
UDIN: 25060352BMOBFQ2568
Membership Number: 060352
Place of Signature: Kolkata
Date: April 11, 2025

MAITHON POWER LIMITED

**Annexure 1 - Statement of capital expenditure as on the date of commercial operation in respect of the NOx abatement System (De-Nox) of Unit 2**

| S. No. | Particulars | Amount (Rs.) |
|---|---|---|
| 1 | Capital expenditure for NOx abatement System (De-Nox) in respect of Unit-2 as on the date of commercial operation | 12,16,73,941 |
| 2 | Cost relating to distributed control system panels, monitors, workstations, spares etc. incurred for both the units (Unit-1 and Unit-2) | 4,78,04,782 |
| **Total capital expenditure incurred as on the Date of Operation (1+2)** | | **16,94,78,723** |

**Notes:**

1. Date of Commercial operation for De-Nox of Unit -2 is January 13, 2025.

2. Expenditure as stated in S. No. 1 above relates to capitalisation of De-Nox for Unit 2, out of 2 units of Maithon Power Limited.

3. The aforesaid details has been extracted from the information available in SAP which is the ERP used by management for recording of transactions.

**For Maithon Power Limited**

ANGSHUMAN CHAKRABARTI
Digitally signed by ANGSHUMAN CHAKRABARTI
Date: 2025.04.11 16:23:24 +05'30'

**Authorised Signatory**
**Place: Dhanbad**
**Date: April 11, 2025**

MAITHON POWER LIMITED

**Annexure 2 - Statement of Gross Block of NOx Abatement System (De-NOx) of Unit 2 as on the date of commercial operation**

**Amount (Rs.)**

| S. No. | Name of Asset | Gross Block of De-Nox as on 13th January 2025 |
|---|---|---|
| 1 | 2 | 3 |
| **A** | **Land under full ownership** | - |
| **B** | **Land under lease** | |
| (a) | for investment in the land | - |
| (b) | For cost of clearing the site | - |
| (c ) | Land for reservoir in case of hydro generating station | - |
| **C** | **Assets purchased new** | |
| a. | PI & Machinery in generating stations | |
| (i) | Hydro electric | - |
| (ii) | Steam electric NHRB & waste heat recovery boilers | 16,94,78,723 |
| (iii) | Diesel electric and gas plant | - |
| b. | Cooling towers & circulating water systems | - |
| c. | Hydraulic works forming part of the Hydro-generating stations | |
| (i) | Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons | - |
| (ii) | Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works | - |
| d. | Building & Civil Engineering works | |
| (i) | Offices and showrooms | - |
| (ii) | Containing thermo-electric generating plant | - |
| (iii) | Containing hydro-electric generating plant | - |
| (iv) | Temporary erections such as wooden structures | - |
| (v) | Roads other than Kutcha roads | - |
| (vi) | Others | - |
| e. | Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant) | |
| (i) | Transformers including foundations having rating of 100KVA and over | - |
| (ii) | Others | - |
| f. | Switchgear including cable connections | - |
| g. | Lightning arrestor | |
| (i) | Station type | - |
| (ii) | Pole type | - |
| (iii) | Synchronous condenser | - |
| h. | Batteries | |
| (i) | Underground cable including joint boxes and disconnected boxes | - |
| (ii) | Cable duct system | - |
| i. | Overhead lines including cable support | |
| (i) | Lines on fabricated steel operating at terminal voltages higher than 66 KV | - |
| (ii) | Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV | - |
| (iii) | Lines on steel on reinforced concrete support | - |

| S. No. | Name of Asset | Gross Block of De-Nox as on 13th January 2025 |
|---|---|---|
| (iv) | Lines on treated wood support | - |
| j. | Meters | - |
| k. | Self propelled vehicles | - |
| l. | Air Conditioning Plants | |
| (i) | Static | - |
| (ii) | Portable | - |
| m.(i) | Office furniture and furnishing | - |
| (ii) | Office equipment | - |
| (iii) | Internal wiring including fittings and apparatus | - |
| (iv) | Street Light fittings | - |
| n. | Apparatus let on hire | |
| (i) | Other than motors | - |
| (ii) | Motors | - |
| o. | Communication equipment | |
| (i) | Radio and high frequency carrier system | - |
| (ii) | Telephone lines and telephones | - |
| (iii) | Fibre Optic | - |
| p. | I. T Equipment including software | - |
| q. | Any other assets not covered above | - |
| | **Total Gross Block of NOx Abatement System (De-NOx) of Unit 2** | **16,94,78,723** |

**Notes:**

1. Name of the Assets as mentioned above confirms to the description of assets mentioned in "Appendix 1 - Depreciation Schedule" to the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

2. Date of Commercial operation for De-Nox of Unit -2 is January 13, 2025.

3. The aforesaid detail has been extracted from the information available in SAP which is the ERP used by management for recording of transactions.

**For Maithon Power Limited**

ANGSHUMAN CHAKRABARTI
Digitally signed by ANGSHUMAN CHAKRABARTI
Date: 2025.04.11 16:18:10 +05'30'

**Authorised Signatory**
**Place: Dhanbad**
**Date: April 11, 2025**

S.R. BATLIBOI & CO. LLP
Chartered Accountants

22, Camac Street
3rd Floor, Block 'B'
Kolkata – 700 016, India
Tel: +91 33 6134 4000

**Independent Auditor's Report on Statement of quarterly closing balances of capital work in progress, capital advance, undischarged liabilities relating to NOx Abatement System (De-NOx) for the quarter ended June 30, 2024, September 30, 2024, December 31, 2024, as on 12th January 2025 i.e. a day before the date of operation and as on date of operation as per the requirements of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024**

To
The Board of Directors
Maithon Power Limited
Corporate Center
34, Sant Tukaram Road,
Carnac Bunder, Mumbai- 400009

1. This Report is issued in accordance with the terms of our service scope letter dated April 3, 2025 and Master Engagement Agreement dated October 13, 2022, as amended with Maithon Power Limited (hereinafter the "Company")

2. At the request of the management, we, the statutory auditors of the Company, have examined the accompanying Statement of quarterly closing balances of capital work in progress, capital advance, undischarged liabilities relating to NOx Abatement System (De-NOx) for the quarter ended June 30, 2024, September 30, 2024, December 31, 2024, as on 12th January 2025 i.e. a day before the date of operation and as on date of operation (hereinafter referred to as the "Statement"), which we have initialled for identification purposes only.

3. The Company intends to submit the accompanying Statement for consideration of and evaluation by the Central Electricity Regulatory Commission (CERC) in connection with application for determination of supplementary tariff for the emission control system filed by the Company as required by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 ("CERC Regulation").

**Management's Responsibility**

4. The preparation of the accompanying Statement is the responsibility of the management of the Company including the preparation and maintenance of all accounting and other relevant supporting records and documents. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the Statement and applying an appropriate basis of preparation and making estimates that are reasonable in the circumstances.

5. The Management is responsible for ensuring that the Company complies with the requirements of the CERC Regulations and for providing all relevant information to the CERC.

**Auditor's Responsibility**

6. Pursuant to the request of the Company for its onward submission to CERC as mentioned in paragraph 3 above, it is our responsibility to provide a limited assurance in the form of a conclusion based on our examination, whether details in the Statement with respect to quarterly closing balances of capital work in progress, capital advance, undischarged liabilities relating to NOx Abatement System (De-NOx) for the quarter ended June 30, 2024, September 30, 2024, December 31, 2024, as on 12th January 2025 i.e. a day before the date of operation and as on date of operation are in agreement with underlying unaudited books of account and records of the Company as provided to us by the management for the period upto the date of capitalization.

7. We have performed a limited review of the unaudited standalone financial results of the Company for the quarter and nine months ended December 31, 2024, prepared by the Company pursuant to the requirements of Regulation 52 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, as amended, and issued an unmodified conclusion dated January 16, 2025. Our review of these unaudited standalone financial results was conducted in accordance with the Standard on Review Engagements (SRE) 2410, "Review of Interim Financial Information Performed by the Independent Auditor of the Entity", issued by the Institute of Chartered Accountants of India ("ICAI"). We have neither audited nor reviewed any financial statements / financial results of the Company as of any date or for any period subsequent to December 31, 2024. Accordingly, we express no opinion or conclusion on the financial statements / financial results of the Company as of any date or for any period subsequent to December 31, 2024.

8. We conducted our examination of the Statement in accordance with the requirements of the Guidance Note on Reports or Certificates for Special Purposes (Revised 2016) issued by the Institute of Chartered Accountants of India ("ICAI"). The Guidance Note requires that we comply with the ethical requirements of the Code of Ethics issued by the ICAI.

9. We have complied with the relevant applicable requirements of the Standard on Quality Control (SQC) 1, Quality Control for Firms that Perform Audits and Reviews of Historical Financial Information, and Other Assurance and Related Services Engagements.

10. Our scope of work did not involve us performing audit tests for the purpose of expressing an opinion on the fairness or accuracy of the amounts reported in the Statement. We have not performed an audit, the objective of which would be the expression of an opinion on the financial results, specified elements, accounts or items thereof, for the Company taken as a whole. Accordingly, we do not express such audit opinion.

11. A limited assurance engagement involves performing procedures to obtain sufficient appropriate evidence on the Reporting Criteria mentioned in paragraph 6 above. The procedures performed vary in nature and timing from and are less extent than for, a reasonable assurance. Consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

12. We have performed the following procedures in relation to the Statement:

    a. Obtained the closing balances of capital work in progress, capital advances and undischarged liabilities for the quarter ended June 30, 2024, September 30, 2024, December 31, 2024, as on 12th January 2025 i.e. a day before the date of operation and as on date of operation of NOx Abatement System (De-NOx) as prepared and compiled by management and traced these balances to underlying unaudited books of account and other records. The completeness of capital work in progress, capital advances and undischarged liabilities for De-NOx is as per the information provided to us by the Management. We have relied on such representation and have not performed any additional procedures in this regard.

    b. Performed necessary enquires with the management and obtained necessary representations.

**Conclusion**

13. Based on procedures performed by us and according to the information and explanations given to us by the management and representations obtained, nothing has come to our attention that causes us to believe that the details provided in the Statement, read together with explanatory notes thereon, are not in agreement with underlying unaudited books of account and records of the Company as provided to us by the management.

**Restriction on Use**

14. This report has been issued at the request of the Company, solely in connection with the purpose mentioned in paragraph 3 above and should not be used by any other person or for any other purpose. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this

S.R. BATLIBOI & CO. LLP
Chartered Accountants

report is shown or into whose hands it may come. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

For **S.R. Batliboi & CO. LLP**
Chartered Accountants
**ICAI Firm Registration Number:** 301003E/E300005

SANJAY KUMAR AGARWAL

Digitally signed by SANJAY KUMAR AGARWAL
DN: cn=SANJAY KUMAR AGARWAL, c=IN, o=PERSONAL, email=SANJU.AGARWAL@SRB.IN
Date: 2025.04.11 16:40:59 +05'30'

**per Sanjay Kumar Agarwal**
Partner
UDIN: 25060352BMOBFR3969
Membership Number: 060352
Place of Signature: Kolkata
Date: April 11, 2025

MPL
MAITHON POWER LIMITED

**Statement of quarterly closing balances of capital work in progress, capital advance, undischarged liabilities relating to NOx Abatement System (De-NOx) for the quarter ended June 30, 2024, September 30, 2024, December 31, 2024, as on 12th January 2025 i.e. a day before the date of operation and as on date of operation**

**Amount (Rs.)**

| S. No. | Particulars | Quarter ended | | | As on 12th January 2025 | As on Date of Operation of De-NOx Unit 2 |
|---|---|---|---|---|---|---|
| | | 30 June 2024 | 30 September 2024 | 31 December 2024 | | |
| 1 | Capital Work in progress (Unit 1) | - | 64,19,615 | 2,37,80,242 | 2,38,60,949 | 2,38,60,949 |
| 2 | Capital Work in progress (Unit 2) | - | 3,39,70,825 | 15,19,27,395 | 16,94,78,723 | Nil (Capitalised on January 13, 2025)* |
| 3 | Capital advance | 2,21,50,000 | 2,46,32,740 | 1,46,44,269 | 1,46,44,269 | 1,43,21,470 |
| 4 | Undischarged Liabilities | - | 71,83,376 | 6,12,28,190 | 6,12,18,216 | 6,10,56,693 |

* The above capital expenditure includes Rs 4,78,04,782 relating to distributed control system panels, monitors, workstations, spares etc. incurred for both the units (Unit-1 and Unit-2).

**Notes:**

1. Date of Operation is date when the De-Nox is commercially operational i.e. January 13, 2025.
2. The aforesaid detail has been extracted from the information available in SAP which is the ERP used by management for recording of transactions.
3. Amount of capital advance and undischarged liabilities relates to NOx abatement System (De-Nox) for both Unit 1 and Unit 2 of Maithon Power Limited whereas De-Nox has been capitalised for Unit 2 only as on January 13, 2025.

**For Maithon Power Limited**

ANGSHUMAN CHAKRABARTI
Digitally signed by ANGSHUMAN CHAKRABARTI
Date: 2025.04.11 16:19:51 +05'30'

**Authorised Signatory**
**Place: Dhanbad**
**Date: April 11, 2025**

# ANNEXURE-P/12

## Computation of IDC on 70% of the fund infused (Amt in Rs.)

| Quarterly position of the actual cash expenditure, CWIP, UDL, Advances, capitalisation since 1st infusion of fund till date of operation as per Auditors Certificate | | | | | | |
|---|---|---|---|---|---|---|
| **Sr. No.** | **Quarter Stare Date** | **01-04-2024** | **01-07-2024** | **01-10-2024** | **01-01-2025** | **As on 13-01-2025** |
| | **Quarter End Date/ ODe** | **30-06-2024** | **30-09-2024** | **31-12-2024** | **12-01-2025** | |
| a | Capital Work in progress (Unit 1) | 0.00 | 6419615.37 | 23780242.43 | 23860948.53 | 23860948.53 |
| b | Capital Work in progress (Unit 2 & Common items) | 0.00 | 33970825.11 | 151927395.31 | 169478723.44 | 0.00 |
| c | Advances | 22150000.00 | 24632740.00 | 14644268.80 | 14644268.80 | 14321469.80 |
| d | Undischarged Liabilities | | 7183375.69 | 61228189.63 | 61218216.33 | 61056692.53 |
| e | Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 169478723.44 |
| **Computation of IDC** | | | | | | |
| 1 | Opening Cash Capex (c/f: 7) | 0.00 | 22150000.00 | 57839804.79 | 129123716.91 | **Total** |
| 2 | Capital Work in progress (Unit 1) | 0.00 | 6419615.37 | 23780242.43 | 23860948.53 | |
| 3 | Capital Work in progress (Unit 2 & Common items) | 0.00 | 33970825.11 | 151927395.31 | 169478723.44 | |
| 4 | Advances | 22150000.00 | 24632740.00 | 14644268.80 | 14644268.80 | |
| 5 | **Total Capex (2+3+4)** | 22150000.00 | 65023180.48 | 190351906.54 | 207983940.77 | |
| 6 | Undischarged Liabilities | 0.00 | 7183375.69 | 61228189.63 | 61218216.33 | |
| 7 | Closing Cash Capex (5-6) | 22150000.00 | 57839804.79 | 129123716.91 | 146765724.44 | |
| 8 | Average Cash Capex (Average of 1,7) | 11075000.00 | 39994902.40 | 93481760.85 | 137944720.68 | |
| 9 | 70% of the Cash Capex (70% of 8) | 7752500.00 | 27996431.68 | 65437232.60 | 96561304.47 | |
| **10** | WAROI (MCLR as on 1st Apr, 2024 = 8.65%) | **2.16%** | **2.18%** | **2.18%** | **0.28%** | |
| **11** | Interest for the quarter (9x10) | 167188.50 | 610398.91 | 1426710.95 | 274604.48 | 2478902.84 |
| **12** | **IDC claimed on 13.01.25 (Unit-2)** | **(apportioned in the ratio of Capex of Unit-1 and Unit-2)** | | | | **2172969.91** |

# ANNEXURE-P/13

## B) PERFORMANCE GUARANTEE SCHEDULE

As per Contract Specification Ref. _____

**Category-II Guarantees – Mandatory Guarantee**

| Sr. No | Guarantee Parameter | Values to be guaranteed by bidder | Acceptable Tolerance |
|---|---|---|---|
| i) | Outlet NOx emission at 6% O2 (dry basis) at ID fan outlet at 40% to 100% TMCR condition for **performance coal**, with any mill combination, with min 20% excess air at Economiser outlet. (Refer Section A, Chapter 1, Clause 12.3.1, Point B1) | < 450 mg/Nm$^3$ | (+/-) 0.00% point from the guaranteed point. |
| ii | Void | | |

**Category – III Guarantees Under Correction:**

| Sr. No | Guarantee Parameter | Values to be guaranteed by bidder | Acceptable Tolerance |
|---|---|---|---|
| i) | Combined Fly and Bottom Ash Unburnt Carbon Heat Loss (i.e. reduction in Boiler Efficiency) shall not exceed 0.8% after 'In Combustion Modification'. | Confirmed. | No positive tolerance is allowed |
| ii) | Increase in SH and RH Spray shall not be more than 10 TPH & 5 TPH respectively of the base value established during base line testing for same load and mill combination and for range of coal specified. | Confirmed. Increase in SH and RH Spray shall not be more than 10 TPH & 5 TPH respectively from the base values established during base line tests for same operating conditions. Further Base line test coal & PG test coal shall be same. . | No positive tolerance is allowed |
| iii) | Superheater and Reheater Outlet steam temperature shall be within (+/-) 5 deg C of temperature recorded during baseline test | Confirmed. | Within (+/-) 5 deg C of rated steam temperature |

**Other Parameters**

| Sr. No | Guarantee Parameter | Values to be guaranteed by bidder | Acceptable Tolerance |
|---|---|---|---|
| i) | Maximum outlet NOx emission at 6% O2 (dry basis) at ID fan outlet at 40% to 100% TMCR condition for range of coal specified, with any mill combination, with min 20% excess air at Economiser outlet. | <450 mg/Nm3 | No positive tolerance is allowed |

**NOTE:**

*1: Contractor shall furnish necessary calculations and characteristic curves / assumptions used as Annexure to this Schedule.

Seal of the Company

Signature
Designation

# VAKALATNAMA

## BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION

## AT NEW DELHI

## PETITION NO. _____/GT/2025

**IN THE MATTER OF:**

Maithon Power Limited ...Petitioner

***Versus***

Tata Power Delhi Distribution Ltd. & Ors. ...Respondents

I, Angshuman Chakrabarti, CFO and Authorized Representative of Maithon Power Limited i.e. the Petitioner in the above petition do hereby appoint Mr. Shri Venkatesh, Mr. Shryeshth Ramesh Sharma, Ms. Kanika Chugh, Mr. Ashutosh Kumar Srivastava, Mr. Abhishek Nangia, Mr. Akash Lamba, Mr. Nihal Bhardwaj, Mr. Siddharth Nigotia, Ms. Surbhi Kapoor, Mr. Kartikay Trivedi, Mr. Aashwyn Singh, Mr. Mohit Gupta, Ms. Manu Tiwari, Mr. Harsh Vardhan and Mr. Aniket Kanhaua, Mr. Suhael Buttan, Ms. Priya Dhankhar, Mr. Anant Singh, Mr. Vineet Kumar, Mr. Nikunj Bhatnagar, Mr. Kunal Veer Chopra, Mr. Vedant Choudhary and Ms. Tarang Saraogi, **(SKV Law Offices)** with e-portal Id SHRIVENKATESH123 to appear, plead and act for me/us in the above petition/application and to conduct and prosecute all proceedings that may be taken in respect thereof and applications for return of documents, enter into compromise and to draw any moneys payable to me/us in the said proceeding.

Place: Dhanbad
Date: 11.04.2025

Signature of the Party

"Accepted"

A. Chakrabarti 11/04/25

Signature with date
(Name and Designation)

Angshuman Chakrabarti
CFO - MPL

Signature with date
**Advocate for the Petitioner**
(Address for service on the Counsel for Petitioner)
Shri Venkatesh
SKV Law Offices
B-50, Defence Colony, New Delhi - 110024
Phone No. 9818771818
Phone No. 011-47099951-99
Email: lawyers@skvlawoffices.com

ADVOCATES' WELFARE FUND STAMP ₹25 2031335 BAR COUNCIL OF DELHI TWENTYFIVE RUPEES

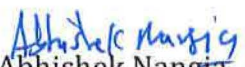
MAITHON POWER LIMITED * MAITHON *

Shri Venkatesh
(D/815/2008)

Shryeshth Ramesh Sharma
(D/2127/2003)

Kanika Chugh
(D/3183/2009)

Ashutosh Kumar Srivastava
(D/268/2017)



Abhishek Nangia
(D/2691/2019)

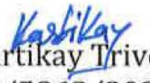
Nihal Bhardwaj
(D/9517/2019)

Siddharth Nigotia
(D/6850/2019)

Shivam Kumar
(D/3458/2019)

Mohit Gupta
(D/5916/2020)

Manu Tiwari
(D/4191/2020)



Kartikay Trivedi
(D/5863/2021)

Aashwyn Singh
(D/462/2023)

Harsh Vardhan
(D/13622/2023)

Aniket Kanhaua
(MP/4421/2023)

Akash Lamba
(D/2963/2017)

Suhael Buttan
(D/2324/2017)

Priya Dhankhar
(D/2092/2019)

Vineet Kumar
(D/4863/2019)

Kunal Veer Chopra
(D/6836/2022)

Nikunj Bhatnagar
(D/7122/2022)

Vedant Choudhary
(D/3909/2023)

Surbhi Kapoor
D/5294/2020

Tarang Saraogi
(MAH/12911/2023)


महाराष्ट्र MAHARASHTRA ◐ 2024 ◐ DG 918324

NOTARY S.M.H.ZAIDI Mumbai & Thane Dist. Reg. No. 3640 My Commission Expires 25 Sept. 2026 GOVT. OF INDIA

प्रधान मुद्रांक कार्यालय, मुंबई.
प.मु.वि.क. /०००००३
13 FEB 2025
सक्षम अधिकारी

श्रीमती संगिता जाधव

The stamp paper forms an integral part of the Power of Attorney issued by Maithon Power Limited dated 25th February, 2025

जोडपत्र - २ Annexure - II

| | |
|---|---|
| दस्ताचा प्रकार | |
| दस्त ऑनलाईन करण्यात आलेला आहे ? | YES/NO |
| मिळकतीचे वर्णन - | ADANI POWER LIMITED Registered Office: Corporate Centre, 3, Sant Tukaram Road, Carnac Bunder, Mumbai - 400 009. Maharashtra, India |
| मुद्रांक विकत घेणाऱ्याचे नाव | - Angshuman Chakraborty |
| दस्ते असल्यास त्याचे नाव व पत्ता | Dipraj Jha |
| मुद्रांक शुल्क रक्कम | |
| मुद्रांक विक्री करणाऱ्या व्यक्ती/विक्रेता | |
| मुद्रांक विकत घेणाऱ्याची सही | |
| मुद्रांक विक्रेत्याची सही | |

परवाना क्रमांक : ८ ० ० ० ० ० ३
मुद्रांक विक्रिचे नाव/पत्ता : श्री. अशोक रघुनाथ कदम
२९०, शहीद भगत सिंह रोड, २/१५, आर्क मुद्रांक, वर्सोवा, मुंबई-४०० ०६१.

ज्या कारणासाठी ज्यांनी मुद्रांक खरेदी केला त्यांनी त्याचा त्याच कारणासाठी मुद्रांक खरेदी केल्यापासून ६ महिन्यात वापर न केल्यास दंडनीय आहे.

000715

20 FEB 2025

20 FEB 2025

NOTARY GOVT

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS THAT Maithon Power Limited, a Company incorporated under the Companies Act, 1956 having its Registered Office at Corporate Center, 34 Sant Tukaram Road, Carnac Bunder, Mumbai – 400 009 (hereinafter called 'the Company'), do hereby nominate, constitute and appoint Mr. Angshuman Chakrabarti, Chief Financial Officer as Attorney of the Company in the name and on behalf of the Company to do and perform the following acts and deeds:

1. To appear, to prepare, to argue, to act, to sign and file documents, petition, applications, affidavits, declarations, forms and returns etc. and to represent on behalf of the Company before any Statutory/Regulatory Authorities, Judicial or Quasi Judicial Authorities under Direct and Indirect Taxes Acts, Rules and Regulations etc. including Income Tax Act, 1961, Custom Act 1962 and Central Excise Act 1944, Sales Tax, Service Tax, Value Added Tax, Director General of Foreign Trade (DGFT) and any other commercial taxes etc., whether Central or State, enacted or to be enacted anywhere in India, under Companies Act, 2013 and rules made thereunder, Employees' Provident Fund & Miscellaneous Provisions Act, 1952, Employees State Insurance (ESI) ACT, 1948 and Payment of Gratuity, (as amended from time to time and for the time being applicable in India).

2. To apply for, obtain, make sign, file and/or furnish and pursue any and all such documents, return, forms, declaration, reports, statements, certificates, notices or information including relating to the Accounts of the Company as the Company may be required to make, obtain, file or furnish before the any Statutory Authority, State or Central Government Authorities.

3. To prepare, modify, execute and sign all correspondence, return, forms, challans, road permits, invoices and other documents and paper etc. relating to the goods and materials of the Company for commercial purposes and also relating to billing and collection matter of the Company in transaction with any person or authorities in India that may be necessary in the ordinary course of business of the Company.

4. To appoint and authorize any Chartered Accountant or Company Secretary (in whole time practice) or legal consultant to certify the various forms/returns/applications and to sign, execute, verify and file written statements, affidavits, applications, petitions required to be filed with office of Hon'ble Ministry of Corporate Affairs/Regional Director/ National Company Law Tribunal (NCLT)/ National Company Law Appellate Tribunal (NCLAT)/Registrar of Companies/Direct or Indirect Tax Department/ DGFT/Labour Department or with any other Government (Central or State) Authorities in India.

5. To publish advertisement in newspapers as required under the provisions of Companies Act, 2013 and rules made thereunder or the Listing Agreement or the regulations of the Securities and Exchange Board of India.

6. To perform and observe and do all acts, deeds, matters and things whatsoever necessary to be performed and observed by the Company and all requirements or provisions affecting the Company contained in any act, statute, decree, ordinance or regulation and any rule(s) or order(s) made thereunder and any other enactment or statutory rules and regulations applicable to the Company in the place in which this Power of Attorney may for the time being be exercisable.

7. To make, enter into, sign and execute on behalf of the Company contracts, agreements, leases (whether as Lessor or Lessee) and other documents with the Government of India, State Governments, public and private bodies, joint stock companies and individuals for a period extending up to 3 years as are normally required in the conduct of the business of the Company.

Note: To be signed jointly with any one of the attorneys similarly authorised to exercise this power.

8. To sign all correspondence that may be necessary in the ordinary course of business of the Company.

9. While discharging his function with respect to matters involving financial implications, the said Mr Angshuman Chakrabarti, Chief Financial Officer shall exercise his powers granted vide the aforesaid Power of Attorney subject to the limits as prescribed in the Schedule of Authorities as may be approved by the Board of Directors of Maithon Power Limited, from time to time.

10. AND GENERALLY to do and execute or cause to be done and executed all documents and assurances, acts, deeds, matters or things ancillary or incidental to the abovementioned matters and all and whatsoever the Attorney shall do or cause to be done in or about the premises by virtue of the aforesaid powers or any of them, the Company doth hereby for itself, their successors and assigns covenant with the said Mr Angshuman Chakrabarti, his heirs, executors and administrators to allow, ratify and confirm.

11. And is hereby declared that the said Mr Angshuman Chakrabarti, Chief Financial Officer when signing on behalf of the Company shall sign "For and on behalf of Maithon Power Limited".

IN WITNESS WHEREOF the Common seal of the Maithon Power Limited has hereunto been affixed this 25th February 2025.

The Common Seal of Maithon Power Limited hereunto affixed pursuant to Resolution passed by its Board of Directors on 16th January 2025 in the presence of Ms. Anjali Pandey, Chairperson and Ms. Mona Purandare, Company Secretary of the Company

Witnesses:

1) Signature:
Name: Vikas Dube
Father's Name: Mr. Paras Nath Dube
Address: 34, Sant Tukaram Road, Carnac Bunder, Mumbai Maharashtra - 400009

2) Signature:
Name: Mahek Petkar
Father's Name: Mr. Riyaz Petkar
Address: 34, Sant Tukaram Road, Carnac Bunder, Mumbai Maharashtra - 400009

S.M.H.ZAIDI Mumbai & Thane Dist. Reg. No. 3040 My Commission Expires 25 Sept. 2026 NOTARY GOVT. OF INDIA

BEFORE ME
S. M. H. ZAIDI
NOTARY
Government of India
Mumbai & Thane Dist
25 FEB 2025

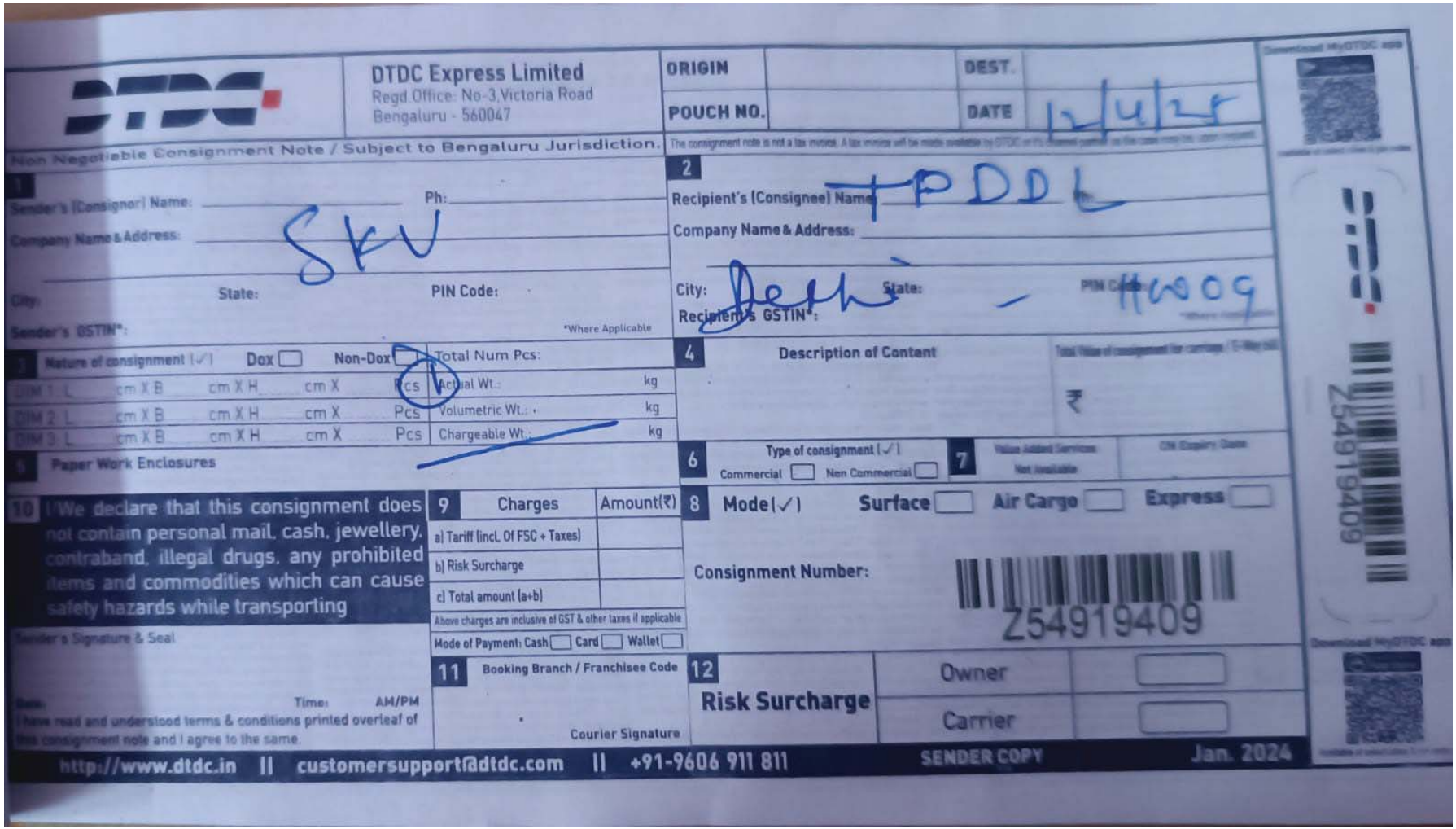
NOTED & REGISTERED
Sr. No. 540 Page No. 42
Book No. 9 Date 25 FEB 2025

# FORM-1

| | | |
|---|---|---|
| 1. | Name of the Petitioner/Applicant | Maithon Power Limited |
| 2. | Address of the Petitioner/Applicant | Maithon Power Limited, Corporate Center, 34 Sant Tukaram Road, Carnac Bunder, Mumbai |
| 3. | Subject Matter | Petition for determination of supplementary tariff for ECS under Section 62 and 79(1)(b) of the Electricity Act, 2003 ("Act") read with Regulations 29 (4) of the CERC (Terms and Conditions of Tariff) Regulations, 2024 (2024 Tariff Regulations) and other relevant provisions of the Act and 2024 Tariff Regulations and this Hon'ble Commission's directions in the Order dated 16.12.2022 in Petition no. 606/MP/2020. |
| 4. | Petition No., or Application No, if any | Petition No._____/GT/2025 |
| 5. | Details of generation assets<br>(a) Generating station/units<br>(b) Capacity in MW<br>(c) Date of commercial operation<br>(d) Period for which fee paid<br>(e) Amount of fee paid<br>(f) Surcharge, if any | <br>2<br>(2 * 525) MW<br><br>U#I-01.09.2011, U#2 - 27.07.2012<br>FY 2020-21 to FY 2024-25<br>Rs.46,20,000/- (Annually)<br><br>NA |
| 6. | Details of transmission assets<br>(a) Transmission line and sub-stations<br>(b) Date of commercial operation<br>(c) Period for which fee paid<br>(d) Amount of fee paid<br>(e) Surcharge, if any | NA |
| 7. | Fee paid for Adoption of tariff for<br>(a) Generation asset<br>(b) Transmission asset | NA |
| 8. | Application fee for licence<br>(a) Trading licence<br>(b) Transmission licence<br>(c) Period for which paid<br>(d) Amount of fee paid | NA |
| 9. | Fees paid for Miscellaneous Petition | NA |
| 10. | Fees paid for Interlocutory Application | NA |
| 11. | Fees paid for Regulatory Compliance Petition | NA |
| 12. | Fees paid for Review Application | NA |
| 13. | Licence fees for inter-State Trading<br>(a) Category<br>(b) Period | NA |

MAITHON POWER LIMITED

| | | |
|---|---|---|
| | (c) Amount of fee paid<br>(d) Surcharge, if any | |
| 14. | Licence fees for inter-State Transmission<br>(a) Expected/Actual transmission charge<br>(b) Period<br>(c) Amount of fee calculated as a percentage of transmission charge.<br>(d) Surcharge, if any | NA |
| 15. | Annual Registration Charge for Power Exchange/OTC Platform<br>(a) Period<br>(b) Amount of turnover<br>(c) Fee paid<br>(d) Surcharge, if any | |
| 16. | Details of fee remitted<br>(a) Transaction id, Reference No./ Payment id<br>(b) Date of remittance<br>(c) Amount remitted | SBINR12020042000080742 (FY-20-21) dated 20.04.2020 (Amount 46,20,000)<br><br>SBINR12021041520922220 (FY-21-22) dated 15.04.2021(Amount46,20,000)<br><br>15007280681CHJ1548082 (FY-22-23) dated 12.04.2022 (Amount 46,20,000)<br><br>SBINR12023041744078008 (FY-23-24) dated 17.04.2023 (Amount 46,20,000)<br><br>SBINR12024041917120868 (FY-24-25) dated 20.04.2024 (Amount 46,20,000) |
| Note: While Sl.No.1 to Sl. No.3 and Sl. No.16 are compulsory, the rest may be filled up as applicable | | |
| Signature of the authorized signatory with date | | |



DTDC Express Limited
Regd.Office: No-3,Victoria Road
Bengaluru - 560047

ORIGIN | DEST.
POUCH NO. | DATE 12/4/25

Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.

The consignment note is not a tax invoice. A tax invoice will be made available by DTDC on its [illegible] as the case may be, upon request.

1 Sender's (Consignor) Name: Ph:
Company Name & Address: SKV
City: State: PIN Code:
Sender's GSTIN*: *Where Applicable

2 Recipient's (Consignee) Name: TPDDL
Company Name & Address:
City: Delhi State: - PIN Code: 110009
Recipient's GSTIN*:

3 Nature of consignment (✓) Dox ☐ Non-Dox ☐
DIM 1: L cm X B cm X H cm X Pcs
DIM 2: L cm X B cm X H cm X Pcs
DIM 3: L cm X B cm X H cm X Pcs
Total Num Pcs:
Actual Wt.: kg
Volumetric Wt.: kg
Chargeable Wt.: kg

4 Description of Content
Total Value of consignment for carriage (₹)
₹

5 Paper Work Enclosures

6 Type of consignment (✓) Commercial ☐ Non Commercial ☐

7 Value Added Services Not Available
CN Expiry Date

8 Mode (✓) Surface ☐ Air Cargo ☐ Express ☐

Consignment Number: Z54919409

10 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting

Sender's Signature & Seal
Date: Time: AM/PM
I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.

9 Charges | Amount(₹)
a) Tariff (incl. Of FSC + Taxes)
b) Risk Surcharge
c) Total amount (a+b)
Above charges are inclusive of GST & other taxes if applicable
Mode of Payment: Cash ☐ Card ☐ Wallet ☐

11 Booking Branch / Franchisee Code
Courier Signature

12 Risk Surcharge
Owner ☐
Carrier ☐

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Z54919409

DTDC Express Limited
Regd.Office: No-3,Victoria Road
Bengaluru - 560047

ORIGIN | DEST.
POUCH NO. | DATE 12/4/25

Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.

The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or it's channel partner as the case may be, upon request.

1 Sender's (Consignor) Name: SKV Ph:
Company Name & Address:
City: State: PIN Code:
Sender's GSTIN*: *Where Applicable

2 Recipient's (Consignee) Name: DVC Ph:
Company Name & Address:
City: Kolkata State: PIN Code: 700054
Recipient's GSTIN*: *Where Applicable

3 Nature of consignment (✓) Dox ☐ Non-Dox ☐
DIM 1: L cm X B cm X H cm X Pcs
DIM 2: L cm X B cm X H cm X Pcs
DIM 3: L cm X B cm X H cm X Pcs
Total Num Pcs: 2
Actual Wt.: kg
Volumetric Wt.: kg
Chargeable Wt.: kg

4 Description of Content
Total Value of consignment for carriage / E-Way bill ₹

5 Paper Work Enclosures

6 Type of consignment (✓) Commercial ☐ Non Commercial ☐

7 Value Added Services Not Available
CN Expiry Date

8 Mode (✓) Surface ☐ Air Cargo ☐ Express ☐

10 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting

Sender's Signature & Seal
Date: Time: AM/PM
I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.

9 Charges | Amount(₹)
a) Tariff (incl. Of FSC + Taxes)
b) Risk Surcharge
c) Total amount (a+b)
Above charges are inclusive of GST & other taxes if applicable
Mode of Payment: Cash ☐ Card ☐ Wallet ☐

11 Booking Branch / Franchisee Code
Courier Signature

Consignment Number: Z54919410

12 Risk Surcharge | Owner ☐ | Carrier ☐

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Bengaluru - 560047

ORIGIN | DEST.
POUCH NO. | DATE 12/4/25

Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.

The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or its channel partner as per rules may be, upon request.

1
Sender's (Consignor) Name: _____ Ph: _____
Company Name & Address: SCV
City: _____ State: _____ PIN Code: _____
Sender's GSTIN*: _____ *Where Applicable

2
Recipient's (Consignee) Name: WBSED C.L.
Company Name & Address: _____
City: Kolkata- 700091 State: _____ PIN Code: _____
Recipient's GSTIN*: _____ *Where Applicable

3 Nature of consignment (✓) Dox ☐ Non-Dox ☐ | Total Num Pcs: 3
DIM 1: L ___ cm X B ___ cm X H ___ cm X ___ Pcs | Actual Wt.: ___ kg
DIM 2: L ___ cm X B ___ cm X H ___ cm X ___ Pcs | Volumetric Wt.: ___ kg
DIM 3: L ___ cm X B ___ cm X H ___ cm X ___ Pcs | Chargeable Wt.: ___ kg

4 Description of Content | Total Value of consignment for carriage (If Any) ₹

5 Paper Work Enclosures

6 Type of consignment (✓) Commercial ☐ Non Commercial ☐

7 Value Added Services Not Available | CN Expiry Date

10 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting

Sender's Signature & Seal

Date: Time: AM/PM
I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.

9 Charges | Amount(₹)
a] Tariff (incl. Of FSC + Taxes)
b] Risk Surcharge
c] Total amount (a+b)
Above charges are inclusive of GST & other taxes if applicable
Mode of Payment: Cash ☐ Card ☐ Wallet ☐

11 Booking Branch / Franchisee Code

Courier Signature

8 Mode (✓) Surface ☐ Air Cargo ☐ Express ☐

Consignment Number: Z54919411

12 Risk Surcharge | Owner | Carrier

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ORIGIN | DEST.
POUCH NO. | DATE 12/4/25

Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.

The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or its [illegible]

1 Sender's (Consignor) Name: SCV Ph:
Company Name & Address:
City: State: PIN Code:
Sender's GSTIN*: *Where Applicable

2 Recipient's (Consignee) Name: TSEBL Ph:
Company Name & Address:
City: Thiruvananthapuram State: PIN Code: 695004
Recipient's GSTIN*:

3 Nature of consignment (✓) Dox ☐ Non-Dox ☑ | Total Num Pcs: 1
DIM 1: L cm X B cm X H cm X Pcs | Actual Wt.: kg
DIM 2: L cm X B cm X H cm X Pcs | Volumetric Wt.: kg
DIM 3: L cm X B cm X H cm X Pcs | Chargeable Wt.: kg

4 Description of Content ₹

5 Paper Work Enclosures

6 Type of consignment (✓) Commercial ☐ Non Commercial ☐

7 Value Added Services Not Available | CN Expiry Date

8 Mode (✓) Surface ☐ Air Cargo ☐ Express ☐

10 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting

| 9 Charges | Amount(₹) |
|---|---|
| a) Tariff (incl. Of FSC + Taxes) | |
| b) Risk Surcharge | |
| c) Total amount (a+b) | |

Above charges are inclusive of GST & other taxes if applicable

Mode of Payment: Cash ☐ Card ☐ Wallet ☐

Consignment Number: Z54919412

Sender's Signature & Seal

Date: Time: AM/PM
I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.

11 Booking Branch / Franchisee Code

Courier Signature

12 Risk Surcharge | Owner ☐ | Carrier ☐

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Regd.Office: No-3,Victoria Road
Bengaluru - 560047

ORIGIN | DEST.
POUCH NO. | DATE 12/4/25

Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.

The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or it's channel partner as the case may be, upon request.

1 Sender's (Consignor) Name: SKV Ph:
Company Name & Address:
City: State: PIN Code:
Sender's GSTIN*: *Where Applicable

2 Recipient's (Consignee) Name: PTCL Ph:
Company Name & Address:
City: Noida State: 201301 PIN Code:
Recipient's GSTIN*:

3 Nature of consignment (✓) Dox ☐ Non-Box ☐ Total Num Pcs:
DIM 1: L cm X B cm X H cm X Pcs Actual Wt.: kg
DIM 2: L cm X B cm X H cm X Pcs Volumetric Wt.: kg
DIM 3: L cm X B cm X H cm X Pcs Chargeable Wt.: kg

4 Description of Content | Total Value of consignment for carriage (E-Way bill) ₹

5 Paper Work Enclosures

6 Type of consignment (✓) Commercial ☐ Non Commercial ☐

7 Value Added Services Not Available | CN Expiry Date

8 Mode (✓) Surface ☐ Air Cargo ☐ Express ☐

10 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting

Sender's Signature & Seal

Date: Time: AM/PM
I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.

9 Charges | Amount(₹)
a) Tariff (incl. Of FSC + Taxes)
b) Risk Surcharge
c) Total amount (a+b)
Above charges are inclusive of GST & other taxes if applicable
Mode of Payment: Cash ☐ Card ☐ Wallet ☐

11 Booking Branch / Franchisee Code
Courier Signature

Consignment Number: Z54919413

12 Risk Surcharge | Owner ☐ | Carrier ☐

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