

**MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION
BHOPAL**

Sub: - Petition under Section 86(1)(b) and Section 86(1)(f) of the Electricity Act, 2003 read with Regulation 8 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and in terms of the liberty granted vide Para 31 of the Order dated 27.12.2019 passed by the Commission in Petition No. 32 of 2019.

Petition No. 17 of 2021

ORDER

**(Hearing through video conferencing)
(Date of Hearing: 26th October' 2021)
(Date of Order: 29th November' 2021)**

**M/s. Jaiprakash Power Ventures Limited
(Unit: Jaypee Bina Thermal Power Plant)**

Petitioner

Vs.

- 1. M.P. Power Management Company Ltd., Jabalpur**
Shakti Bhawan, Rampur, Jabalpur – 482008 (M.P.)
- 2. M.P. Poorv Kshetra Vidyut Vitran Company Ltd.,**
Shakti Bhawan, Rampur, Jabalpur, M.P.
- 3. M.P. Madhya Kshetra Vidyut Vitran Company Ltd.**
Nishtha parisar, Govindpura, Bhopal, M.P.
- 4. M.P. Paschim Kshetra Vidyut Vitran Company Ltd.**
GPH Compound, Pologround, Indore, M.P.
- 5. Government of Madhya Pradesh**
Energy Department, VB-2,
Vallabh Bhawan Annex, Mantralaya, Bhopal.

Respondents

Shri Venkatesh, Advocate, Shri Ashok Shukla and Shri Ajeya Kumar Tripathi, appeared on behalf of the Petitioner.

Shri Manoj Dubey, Advocate and Shri Ajasra Gupta appeared on behalf of the Respondent No. 1.

M/s Jaiprakash Power Ventures Ltd. has filed the subject petition under Section 86(1)(b) and Section 86(1)(f) of the Electricity Act, 2003 read with Regulation 8 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020. This petition is also filed in terms of the liberty granted vide Para 31 of the Order dated 27.12.2019 passed by this Commission in Petition No. 32 of 2019 for 2x250 MW Bina thermal power station regarding in-principle approval

for the expenditure that may be incurred on account of 'Change in Law' events in line with the new environment regulations issued by the Ministry of Environment Forest and Climate Change (MoEFCC) vide notifications dated 7th December 2015 and 28th June 2018. The said Notifications brought modifications in the existing norms related to air emissions including Oxides of Nitrogen (NO_x), Sulphur Dioxide (SO₂), Particulate Matter, Mercury, quantum of water use and stack height in Thermal Power Plants.

2. The petitioner is a generating company having established a coal based thermal power station with capacity of 2x250 MW at Bina. The Unit No. 1 and 2 of the petitioner's power plant achieved date of commercial operation (COD) on 31.08.2012 and 07.04.2013, respectively.
3. The petitioner entered into long term Power Purchase Agreement (PPA) on 5th January' 2011 with the MP Power Management Company Ltd., (hereinafter called "MPPMCL" or "Respondent No. 1") for supply of 65% power of the installed capacity of the Project at a regulated tariff determined by the Madhya Pradesh Electricity Regulatory Commission (hereinafter called "Commission or MPERC"). The petitioner has also executed another Power Purchase Agreement on 6th September' 2011 with the Government of Madhya Pradesh for supply of 5% of the net power generated at variable charges determined by the Commission.
4. Earlier, the petitioner had filed petition No. 32 of 2019 before this Commission seeking in-principle approval for installation of FDG (Flue Gas De-sulphurisation) in its 2X250 MW Jaypee Bina thermal power station in compliance to the notification for the new environment norms issued by the Ministry of Environment Forest and Climate Change (MoEFCC) vide notifications dated 7th December 2015 and 28th June 2018 as events of Change in Law.
5. Vide order dated 27th December' 2019, the aforesaid petition No. 32 of 2019 was disposed of by this Commission with the following observations:

30. The Tariff Regulations, 2015 only provides for allowance of Additional Capital Expenditure on account of Change in Law during True up exercise, on the basis of Annual Audited Accounts and expenditures certified by an Auditor and not otherwise. There is no provision in the Tariff Regulations, 2015 to consider "ad-hoc" or "in-principle" approval by the Commission. Further, there is no provision of any in-principle approval of capital cost or additional capitalisation in the Power Purchase Agreement. Therefore, the request of the petitioner for ad-hoc/in principle approval of capital cost is not considered by the Commission at this stage.

31. The Central Commission has already notified CERC (Terms and Condition for Determination

of Generation Tariff) Regulations 2019 for the control period 2019-24, wherein adequate provisions dealing the Additional Capitalization on account of Revised Emission Standards have been made. This Commission is also likely to notified Tariff Regulations for the control period 2019-24 shortly in line with the Regulations notified by the Central Commission which may have adequate provisions for the Additional Capitalization on account of Revised Emission Standards. Further, most of the Additional capitalization on account of Revised Emission Norms is likely to be incurred by the petitioner in next control period of FY2019-24 and shall have to be dealt in accordance with the “MPERC (Terms & Conditions for determination of Tariff) Regulations 2019” and any Capital expenditure on account of Revised Emission Standards has to be dealt with accordingly. Therefore, the petitioner shall be at liberty to approach the Commission for approval of additional capitalization on account of revised emission standards in terms of provisions under applicable Tariff Regulations at the appropriate stage based on the actual expenditure incurred duly reconciled with the Annual Audited Accounts.

6. Subsequently, the Commission issued MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 {RG-26 (IV) of 2020} on 20.02.2020, which were notified on 28.02.2020 in Madhya Pradesh Gazette. Regulation 8 of the aforesaid Regulations, 2020 provides for in-principle approval in specific circumstances. Therefore, the petitioner has filed this petition under Regulation 8 of the MPERC Generation Tariff Regulations, 2020.
7. In the subject petition, the petitioner broadly submitted following:
 - i. *In terms of the liberty granted by the Commission and in terms of the Regulation 8 of Tariff Regulations, 2020 the Petitioner is constrained to file the present Petition. The timeline for the Petitioner to meet the mandate of MoEF&CC Notification is December, 2022 as notified by the Central Electricity Authority (“CEA”), therefore, the Petitioner has undertaken International Competitive Bidding for selection of an EPC contractor, therefore, the Petitioner needs ‘in principle’ approval of the proposed Additional Capital Expenditure before such costs can be incurred by the Petitioner.*
 - ii. *On 19.11.1986, the Central Government in exercise of the powers conferred under Section 6 and Section 25 of the Environment (Protection) Act, 1906 (29 of 1986) (“E.P. Act, 1906”) issued a Notification thereby notifying the Environment (Protection) Rules, 1986 (“Rule, 1986”).It is imperative to note that the respective Rules, 1986 qua Rule 3 deals with the Standard for emissions or discharge of environmental pollutants.*
 - iii. *On 07.12.2015, the Central Government in exercise of the powers conferred under Section 6 and 25 of the Environment (Protection) Act, 1986 (“E.P. Act, 1986”) issued a Notification through*

MoEF&CC being Notification No. S.O.3305 (E)) thereby notified the Environment (Protection) Amendment Rules, 2015 (“Amendment Rules, 2015”). By way of the said Amendment Rules, 2015, the Central Government amended/introduced the standards for emission of Environmental pollutants to be followed by all Thermal Power Plants (existing as well as future) in Schedule I of the Rules, 1986. The MoEF&CC further mandates all TPPs to mandatorily comply with the revised emission norms within the period of two years from the date of the said notification. In this regard, the essentials of the Amendment Rules, 2015 notified by the MoEF&CC are as under:

- (a) Revised emission parameters of Particulate Matter.*
 - (b) Introduced new parameters qua Sulphur Dioxide (“SO₂”), Oxides of Nitrogen (“NO_x”) and Mercury.*
 - (c) Directed that all Thermal Power Plants with Once Through Cooling (“OTC”) shall install Cooling Tower (“CT”); and*
 - (d) Introduced/prescribed a limit to the amount of Water to be used per Unit.*
- iv. On 30.05.2018, the Ministry of Power (“MoP”), GoI in exercise of the powers conferred under Section 107 of the Electricity Act issued a Letter bearing No. 23/22/2018-R&R (“MoP Letter”) to the Central Electricity Regulatory Commission (“Central Commission”) thereby supplying a mechanism for implementation of the new environmental norms/regulations (applicable to existing as well as upcoming TPPs) and accordingly, directed to ensure its timely implementation as the same being in larger public interest. By way of the said Letter, the MoP urged the need to develop appropriate regulatory framework specifying the mechanism or enabling guidelines in order to provide regulatory certainty to the TPPs for recovery of the additional cost through tariff.*
- v. On 28.06.2018, in exercise of the powers conferred under Section 6 and Section 25 of the E.P. Act, 1986 read with Rule 5 (3) of the Rules, 1986, the Central Government through MoEF&CC issued a Notification thereby introducing the Environment (Protection) Amendment Rules, 2018 (“Amendment Rules, 2018”). By way of the Amendment Rules, 2018, the MoEF&CC amended the Rules, 1986 and consequently, stipulated the terms pertaining to the stack heights for TPPs post FGD, for reduction of SO₂ emissions. A True Copy of the Notification dated 28.06.2018 issued by MoEF&CC, GoI is annexed hereto and marked as ANNEXURE P/6.*
- vi. On 25.03.2019, the Central Electricity Authority (“CEA”), Ultra Mega Power Projects Development Division issued a Letter to the Petitioner whereby, CEA in consideration of the revised Feasibility Report submitted by the Petitioner on February 2019, issued recommendation on suitable technology and indicative cost for installation of the FGD in order to meet the revised emission norms as per FGD Notifications.*
- vii. On 06.05.2019, the Petitioner in compliance of the requirement under Article 12 of the PPA dated 05.01.2011, issued notice to the Respondents pertaining to the ‘Change in Law’ event on*

- account of the revised emission norms introduced qua FGD Notifications and the subsequent impact on the Project cost and Tariff.*
- viii. *On 05.08.2019, the Petitioner preferred the respective JPVL Petition being Petition No. 32 of 2019 before this Hon'ble Commission under Section 86(1)(b) and Section 86(1)(f) of the Act together read with Article 12.2 & 12.3 of the PPA dated 05.01.2011 thereby seeking in principle approval for the installation of FDG in its Phase I (2 x 250 MW) Jaypee Bina TPP in compliance to the FGD Notifications issued by MoEF&CC, as events under 'Change in Law' as per PPA.*
- ix. *On 27.12.2019, this Hon'ble Commission was pleased to pass an Order in the abovementioned JPVL Petition whereby this Hon'ble Commission in consideration of the MoP Letter dated 30.05.2018 (MoP recognized the FGD Notifications as events under 'Change in Law' with stipulated exceptions) was pleased to recognise/approve the FGD Notifications introducing the revised Environmental norms/regulations as events under 'Change in Law'. However, this Hon'ble Commission in terms of the Tariff Regulations, 2015, disallowed the claim of the Petitioner seeking in principle/ad hoc approval of the Additional Capital Expenditure on account of the said change in law event. Further, this Hon'ble Commission granted liberty to the Petitioner to approach at appropriate stage for approval of the additional capitalization as per actuals.*
- x. *On 20.02.2020, the Hon'ble Commission notified the MPERC Tariff Regulations, 2020 which is applicable for the Control Period 2019-24.*
- xi. *It is submitted that the Petitioner initiated the bidding process whereby 8 prospective bidders purchased the bid documents in respect to Jaypee Bina TPP, however, on account of the outbreak of the pandemic i.e. Novel Coronavirus Disease ("COVID-19"), various bidders requested for the extension of dates for the submission of bids. Taking note of such unprecedented circumstances and the requests from the bidders seeking extension of time, the timeline for submission of bids was extended up to April, 2020 which was subsequently extended from time to time. Currently, dates of purchase of bid documents and date of submission of bids for FGD for Jaypee Bina have been extended up to 31.03.2021. A True Copy of various emails sent by the Petitioner to Respondent is annexed hereto and marked as ANNEXURE P/10.*
- xii. *The Petitioner has requested lenders for funding of capital expenditure of Rs 415 Crs for FGD installations in Jaypee Bina TPP, in order to comply with FGD Notifications. However, the Lenders have sought approval of the FGD Cost from this Hon'ble Commission as per its own Regulations. Hence, the present Petition.*
- xiii. *It is submitted that prior to the issuance of the FGD Notifications issued by MoEF&CC, GoI, the Petitioner had duly complied with the previous statutory Environmental norms/regulations consequently, the MoEF&CC, GoI vide its Office Memorandum dated 23.04.1996 accorded Environmental clearance to the Petitioner in respect to its Jaypee Bina TPP (erstwhile Bina Thermal Power Project) Phase I (2 x 250 MW).*
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- xiv. It is submitted that prior to the execution of the PPA dated 05.01.2011, there was no such requirement as mandated under the FGD Notifications (the MoEF&CC notified the revised emission standards) which consequently warrants the installation of FGD and other associated systems in order to limit the SO₂ to 600 mg/Nm³. However, post issuance of FGD Notifications by MoEF&CC, the TPPs (including Jaypee Bina TPP) are obligated to limit SO₂ emission from its respective Unit (stack emission basis) below 600 mg/Nm³ (corrected to 6% O₂ on Dry basis) irrespective of ground level concentration and ambient air quality norms which essentially requires installation of FGD systems for each Unit, in order to duly comply with the mandates qua FGD Notifications.
- xv. It is submitted that the Notification dated 07.12.2015 issued by MoEF&CC, GoI thereby, introducing the Amendment Rules, 2015, the MoEF&CC introduced the parameters in Schedule I of the Rules, 1986 to be complied by TPPs. In this regard, the relevant extract of the Notification dated 07.12.2015 in respect to the air emission are noteworthy. –

Sr. No.	Industry	Parameter	Standards
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
"25"	Thermal Power Plant	<i>TPPs (units) installed before 31st December, 2003*</i>	
		<i>Particulate Matter</i>	<i>100 mg/Nm³</i>
		<i>Sulphur Dioxide (SO₂)</i>	<i>600 mg/Nm³ (Units smaller than 500 MW capacity units) 200 mg/Nm³ (for units having capacity of 500 MW and above)</i>
		<i>Oxides of Nitrogen (NO_x)</i>	<i>600 mg/Nm³</i>
		<i>Mercury (Hg)</i>	<i>0.03 mg/Nm³ (for units having capacity of 500 MW and above)</i>
		<i>TPPs (units) installed after 1st January, 2004, up to 31st December, 2016*</i>	
		<i>Particulate Matter</i>	<i>50 mg/Nm³</i>
		<i>Sulphur Dioxide (SO₂)</i>	<i>600 mg/Nm³ (Units smaller than 500 MW capacity units) 200 mg/Nm³ (for units having capacity of 500 MW and above)</i>
		<i>Oxides of Nitrogen (NO_x)</i>	<i>300 mg/Nm³</i>
		<i>Mercury (Hg)</i>	<i>0.03 mg/Nm³</i>

- xvi. *It is submitted that the MoEF&CC notified the Amendment Rules, 2018 accordingly, stipulated the terms pertaining to the stack heights for TPPs post FGD, for reduction of SO₂ emissions.. In this regard, the relevant extract of the Notification dated 28.06.2018 pertaining to stack height post FGD installation are mentioned hereunder for the sake of brevity. –*

<i>Sr. No.</i>	<i>Industry</i>	<i>Parameter</i>	<i>Standards</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>'33A</i>	<i>Thermal Power Plants with wet Flue Gas Desulphurization (FGD)</i>	<i>Stack Height/Limit in Meters</i>	<i>Power generation capacity: 100 MW and above H = 6.902 (QX0.277)0.555 Or 100 m minimum</i>
			<i>Less than 100 MW H=6.902 (QX0.277)0.555 Or 30 m Whichever is More Q = Emission rate of SO₂ in kg/hr * H = Physical stack height in meter *total of all Unit's connected to Stack Note: These standards shall apply to coal/ lignite based Thermal Power Plants"</i>

- xvii. *It is submitted that pursuant to the issuance of the Revised Emission Norms qua FGD Notifications which thus modified the existing norms related to the air emission including particulate matter, SO₂, NO_x and Mercury from the TPPs and further specifies the modified limit for water use and waste water discharge, the petitioner in respect to its TPP was in compliance with the emission of particulate matter, mercury, water use and waste water discharge as applicable. However, to limit the SO₂ as per the mandate qua FGD Notifications, the Petitioner is obligated to install FGD systems resultantly, additional capital expenditure and other recurring costs to be incurred. It is humbly submitted that this Hon'ble Commission in Para 25*

of its Order dated 27.12.2019 has already accepted the FGD Notifications to be change in law. Therefore, the said issue is now no more *res integra*. However, the present Petition is now necessitated as the Petitioner is in the process of undertaking the said proposed expenditure through competitive bidding therefore, regulatory certainty qua the said expenditure is required by all financial institutions to fund the Expenditure.

xviii. It is respectfully submitted that the Petitioner has engaged Tata Consulting Engineers Limited (“TCEL”) to study and analyse the impact of the revised Emission standards basis Environmental norms/regulations as enshrined under the FGD Notifications. As per the estimate provided under the Feasibility Report (vide Annexure P/7 to the present Petition), the installation of the FGD for Phase I (2 x 250 MW) of the Jaypee Bina TPP, is likely to entail the following cost. –

(a) Hard cost of construction as per the Feasibility Report dated February 2019 is as follows.

PARTICULARS	AMOUNT (IN CRORES)
Base cost (including Taxes & Duties, Contingency, Engineering and Project Management) without IDC & IEDC.	417.08
Loss of capacity charge due to shutdown of Generation for 30 days of each unit on account of duct interconnection.	66.71
Total cost	483.79
Cost per MW without IDC & IEDC	Rs. 0.96 Crs/MW

(b) The Annual Operating Cost as per the Feasibility Report dated February, 2019 is as follows. –

PARTICULARS	AMOUNT (IN CRORES)
Cost of reagent	4.64
Additional Auxiliary power consumption	10.20
Additional clarified Water FGD	0.18
O&M cost for FGD	5.10
By product Associated costs	-0.89
Total cost	19.23

xix. It is submitted that the hard cost of construction for implementation is expected to be approximately Rs. 483.79 Crores (excluding IDC and IEDC) and the additional O&M expenses will be a sum of Rs. 19.23 Crores per annum.

- xx. *It is submitted that on the basis of the Feasibility Report (dated February, 2019), the CEA vide its Letter dated 25.03.2019 had issued recommendation Report with details of the suggestive technology and indicating the cost for the installation of FGD. The CEA in its Report had estimated the Hard cost for the implementation at Rs. 0.45 Cr per MW (at Rs. 225 Crs.) as the base cost only and does not include opportunity cost related to interconnection of FGD, Taxes & duties and the IDC and IEDC. That the CEA has further mentioned the following in its respective Report. –*
- (a) *The cost estimation for FGD project is based on the price of equipment, infrastructure and related services discovered during transparent and open bidding being carried out by Central and State Undertakings.*
- (b) *An indicative base cost estimation is done by CEA in order to facilitate JBTPP determine the price for installation of FGD on the major heads of CAPEX and OPEX. The cost of retrofitting FGD for JBTPP is being discovered through open competitive bidding in consultation with representatives of major PPA stakeholders. It is pertinent to mention herein that MPPMCL has been involved in the Competitive Bidding carried out by the Petitioner. The Petitioner as present is seeking in principle approval as per the estimated cost approved in the DPR. However, the same would be subject to variation in terms of the cost arrived at by International Competitive bidding.*
- xxi. *It is submitted that on 20.02.2020, the Hon'ble MPERC notified the MPERC Tariff Regulations, 2020 which is applicable for the Control Period 2019-24. From the perusal of the respective Tariff Regulations, 2020, it is evident that adequate provisions in respect to installation of FGD are duly incorporated under the same. The Hon'ble Commission in Regulation 8 of Tariff Regulations, 2020 has provided a threshold of INR 100 Crores for filing of a Petition seeking 'in principle' approval. As seen from Para 33 above, the said threshold has been met. Hence, the present Petition squarely falls within the purview of Regulation 8 of Tariff Regulations, 2020. The said expenditure is proposed to be incurred in FY 2021-22, FY2022-23 and FY2023-24.*
- xxii. *It is submitted that additional capital expenditure is to be incurred on account of the installation of the FGD system which resultantly will have a vital impact on the Project and therefore, clarity over the recovery of such additional capital expenditure is essential for the Petitioner in order to supplement its need to seek assistance before any financial institutions.*
- xxiii. *In view of the aforesaid, the following Orders passed by Ld. Central Commission with the parimateria Regulation 8 are relevant and they are as follows :–*
- (a) *Order dated 11.11.2019 in 152/MP/2019 – Maithon Power Ltd. v. TPDDL &Ors..*

“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.”

(b) Order dated 23.04.2020 in Petition No. 446/MP/2019 – Sasan Power Ltd. v. MPPMCL & Ors.:

“23. We note that CEA in its recommendations (quoted at paragraph 14 of this order) has stated that:

“....The indicative estimated cost for Limestone based FGD has been estimated Rs. 0.37 Cr./MW (BASE COST) +0.047 Cr./MW (plant specific additional requirement for implementing FGD such as electrical supply and ducting work)This cost estimation is based on the price of equipment, infrastructure and related services discovered during transparent and open bidding being carried out by Central and State Sector Undertakings.....This indicative cost is the ‘Base cost’ only and does not include Opportunity cost (associated with generation loss due to interconnection of chimneys with the absorber) and Taxes and Duties.....”.

It is thus clear that the cost recommended by CEA is an indicative cost that is primarily based upon rates of such installation by Central/ State PSUs. CEA has also stated that the costs are ‘base cost’ only.

24. Even otherwise, it is not possible to indicate exact cost that can be discovered through a competitive bidding process and that is the reason CEA has only recommended the indicative cost. The generating companies such as the Petitioner are required to discover the price through international competitive bidding process. We are also aware that in recent times, bids for installation of FGD system have been floated by other generating stations as well and these may lead to change in prices of FGD system in the international market. Therefore, while approving costs of installation of FGD system, the Commission needs to

take into account the recommendations of CEA and the discovered cost through international competitive bidding process and then take a view as to reasonableness of costs.”

- (c) *Order dated 06.05.2020 in Petition No. 209/MP/2019 – Sembcorp Energy India Ltd. v. SPDCTL &Ors.:*

“39. It is thus clear that the cost recommended by CEA is an indicative cost that is primarily based upon rates of such installation by Central/ State PSUs. CEA has also stated that the costs are ‘base cost’ only and does not include opportunity cost and Taxes and Duties. Even otherwise, it is not possible to indicate exact cost that can be discovered through a competitive bidding process and that is the reason CEA has only recommended the indicative cost. The generating companies such as the Petitioner are required to discover the price through international competitive bidding process. We are also aware that in recent times, bids for installation of FGD system have been floated by other generating stations as well and these may lead to change in prices of FGD system in the international market. Therefore, while approving costs of installation of FGD system, the Commission needs to take into account the recommendations of CEA and the discovered cost through international competitive bidding process and then take a view as to reasonableness of costs.”

- xxiv. *It is evident from the above that the cost provided by CEA was only indicative in nature and does not represent the actual procurement cost. Further, the Hon’ble Central Commission has itself acknowledged that, in recent times, bids for installation of FGD system have been floated by other generating stations as well and these may lead to change in prices of FGD system in the international and domestic market. Further, in any event, the discovery of price in the instant case is being done through a transparent process of competitive bidding and the same would be subject to prudence check by this Hon’ble Commission.*
- xxv. *In view of the aforesaid, regulatory certainty qua apportioning of such additional capital expenditure on account of installation of FGD systems and further grant of ‘in principle’ approval is crucial. It is submitted that in the absence of such regulatory certainty, the financial institutions are not in the position to provide loans to the Petitioners to meet the Revised Emission Norms. Therefore, non-grant of such in principle approval of the additional capital expenditure on account of the installation of the FGD systems will severely impair the ability of the Petitioners to seek financial assistance to meet this exorbitant expenditure.*
- xxvi. *It is submitted that the Notification dated 07.12.2015 issued by MoEF&CC, GoI whereby new Environmental standards were introduced to be implemented by all TPPs, existing or upcoming, and specifically points out that the standard norms set out therein is to be implemented by all*

TPPs. However, without the in-principle approval to the additional capital expenditure as sought by the Petitioner on account of installation of FGD systems, the Petitioner cannot implement the FGD Notifications.

8. With the above submission, the petitioner prayed the following:
Grant 'In principle' approval of Cost/Additional Capital Expenditure on account of the installation of the Flue Gas Desulphurization ("FGD") and other associated system as mandated vide Notification dated 07.12.2015 and 28.06.2018 as per Regulation 8 of the Tariff Regulations, 2020.
9. At the motion hearing held on 10th August' 2021, the petition was admitted. Vide daily order dated 12th August' 2021, the petitioner was directed to serve copy of subject petition on the Respondents. The Respondents were directed to file their replies to the subject petition within two weeks. The petitioner was also asked to file rejoinder within a week, thereafter.
10. At the hearing held on 26th October' 2021, the Commission had observed the following:
 - i. By affidavit dated 2nd September' 2021, the Respondent No. 1 (MPPMCL) filed reply to the subject petition.
 - ii. By affidavit dated 9th October' 2021, the petitioner filed rejoinder to the above reply filed by Respondent No. 1 (MPPMCL).
 - iii. Ld. Counsels who appeared for the parties concluded their arguments.
11. Having heard the parties, vide daily order dated 28th October' 2021, the case was reserved for order with the direction to the petitioner to file indicative impact on tariff due to proposed additional capital expenditure to be incurred in compliance of Govt. of India's notifications regarding revised emission standards, based on the feasibility report of its consultant, within a week.
12. In compliance to the above, by affidavit dated 6th November' 2021, the petitioner filed details of the indicative impact on tariff on account of installation of FGD system based on the feasibility report submitted by the consultant M/s Tata Engineering Consulting Services. The petitioner has also filed a copy of Central Electricity Authority (CEA) letter dated 24.02.2021 clarifying that the cost estimate given by it for FGD system was indicative in nature.
13. By affidavit dated 2nd September' 2021, the Respondent No. 1 (MPPMCL) filed reply to the subject petition broadly submitted the following:

- i. *That, the Petitioner has filed instant petition under Regulation 8 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and has claimed relief, inter-alia, for grant of in-principle approval on account of Change-in-Law for the expenditure to be incurred in installation of FGD to bring its plant within the permissible emission standards as prescribed by Notifications dated 7th December, 2015 and 28th June, 2018 issued by MOEF & CC.*
- ii. *That, a conjoint reading of the two regulations (Regulation 8 and Regulation 31) of the MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2020 would make it clear that Regulation 8 only provides in general for in-principal approval of Additional Capitalization on account of change in law events or force majeure conditions with a ceiling limit of 10% of the estimated expenditure over the Admitted Capital Cost or Rs. 100 crores whichever is lower. In the present petition, the Additional Capitalization claimed by the petitioner excluding IDC, IEDC, variable cost and Additional O & M, and as such this Additional Capitalization cannot be claimed under Regulation 8. Whereas, the Regulation 31, in particular, provides for additional capitalization on account of revised standards for emission. Regulation 31 requires various additional and specific information, viz., details of proposed technology as specified by the CEA, scope of work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange, if any, detailed computation of indicative impact of tariff to the beneficiaries and any other information considered to be relevant by the generating company, to be furnished by the Generating Company while making a proposal for such additional capitalization.*
- iii. *The Petitioner has not only filed instant petition under incorrect provision of law, in as much as the Petition ought to have been filed under Regulation 31 instead of Regulation 8, but has also not furnished the necessary and specific information required under Regulation 31 (2).*
- iv. *In such a circumstance, it may not be possible for the answering Respondent beneficiary to offer detailed comments / objections and reasonable assistance to the Hon'ble Commission in a way to grant the required approval under Regulation 31 (3) after due consideration of the reasonableness of the estimates, financing plan, schedule of completion, interest during construction, use of efficient technology and such other factors as may be considered relevant by the Hon'ble Commission.*
- v. *The present petition has been filed under incorrect provision of law and in suppression of material facts. Hence, for the present is neither maintainable under Regulation 8 nor under Regulation 31 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and is therefore prayed that the same may be dismissed and petitioner may be directed to file a petition duly complying the provisions of Regulation 31 of the aforesaid Tariff Regulations.*

32. By affidavit dated 9th October' 2021, the petitioner filed rejoinder to the reply filed by the Respondent No. 1 broadly submitted the following.

- i. *At the outset, it is submitted that Petitioner can claim additional capitalization on account of 'Change in Law' or Force Majeure events under Regulation 8 of the MPERC Regulations, 2020 as it has duly complied with the conditions as envisaged under Regulation 8. In this regard, it would be important to lay down the conditions to be met in order to file Petition under Regulation 8 which are as under:*
 - (a) *Prior notice to the beneficiaries or the long term customers.*
 - (b) *Estimated expenditure of the additional capitalization must exceeds 10% of the admitted capital cost of the Project or Rs 100 Crore whichever is lower.*
- ii. *It is pertinent to mention that the Petitioner has duly complied with the aforesaid conditions as mentioned in Regulations 8 of the MPERC Tariff Regulations, 2020 which are as follows:*
 - (a) *On 06.05.2019, the Petitioner has duly served a Change in Law Notice under clause 12.3.2 of Power Purchase Agreement executed between Respondent No.1 and MPPMCL thereby notifying the Change in Law events occurred on account of revised emission norms notified by MoEF&CC vide notification dated 07.12.2015 and 28.06.2018.*
 - (b) *It is an admitted position that the Additional capitalization claimed by Petitioner vide the instant Petition on account of Change in Law events exceeds 10% of the admitted capital cost of the Project or Rs 100 Crore.*
- iii. *It is submitted that both the avenues under Regulation 8 and 31 of the MPERC Tariff Regulations, 2020 are available to the Petitioner. It is pertinent to mention that both the Regulations would eventually lead to same conclusion i.e. in-Principle approval of the Additional Capitalization as Claimed by Petitioner on account 'Change in Law' events, Force Majeure Events or revised emission norms. The Regulation 8 and 31 of MPERC Tariff Regulations, 2020 is reproduced below:*

"8. In-principle Approval in Specific circumstances:

8.1 The generating company 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."

"31. Additional Capitalization on account of Revised Emission Standards:

- 31.1 A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emission standards shall share its proposal with the beneficiaries and file a petition before Commission for undertaking such additional capitalization.
- 31.2 The proposal under clause 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.
- 31.3 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, and such other factors as may be considered relevant by the Commission.
- 31.4 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.”
- iv. The interchangeability of above Regulations is further clarified by a reading of Regulation 11 and 29 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (“CERC Tariff Regulations, 2019”), respectively. The Regulations are reproduced hereunder:

“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.”

“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.”*
- v. *At this stage, it would be relevant to highlight the facts of Petition No. 335/MP/2020 as filed by NTPC before Ld. CERC which are as under:*
- (a) *NTPC had filed the Petition under Section 79 read with Regulation 29 of the CERC Tariff Regulation, 2019 seeking in-principle Approval of cost on account of installation of Emission Control System in compliance of MoEF&CC Notification.*
- (b) *MPPMCL had raised the objection to the Petition on the count that NTPC had not followed the procedure as laid down under Regulation 29(2) of the CERC Tariff Regulations, 2019, therefore, the Petitions should be liable to be rejected.*
- (c) *However, Ld. CERC after considering the reliefs as prayed by NTPC, considered it appropriate to adjudicate the Petitions of NTPC for in-Principle approval under Regulation 11 of the CERC Tariff Regulations, 2019 which is parimateria to Regulation 8 of the MPERC Tariff Regulations, 2020.*
- (d) *Ld. CERC was pleased to accord in-Principle approval of Additional Capital Expenditure under Regulation 11 of the CERC Tariff Regulations, 2019 towards installation of ECS to meet the revised Emission Control Norms notified by MoEF & CC and a separate direction was passed to NTPC to file separate Petitions for determination of tariff after implementation of revised ECS as provided in Regulation 29(4) of CERC Tariff Regulations, 2019.*
- vi. *In view of the Order dated 28.04.2021 passed by Ld. CERC in Petition No. 335/MP/2020, it is evident that Ld. CERC has itself recognized that the Petition seeking in-principle approval of additional capitalization on account of revised emission norms would be maintainable under Regulation 11 which is parimateria to Regulation 8 of MPERC Tariff Regulations, 2020 under which the present Petition has been filed by Petitioner.*
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- vii. *It would be further relevant to highlight that Ld. CERC after duly considering the objections raised by MPPMCL qua the procedure to be followed under Regulation 29 which is parimateria to Regulation 31 of the instant Petition and was pleased to grant in-Principle approval to NTPC under Regulation 11 of CERC Tariff Regulations, 2019 which is parimateria to Regulation 8 of MPERC Tariff Regulations, 2020.*
- viii. *Considering the position laid down above, Petitioner has correctly filed the instant Petition under Regulation 8 of the MPERC Tariff Regulations, 2020, therefore, the objection raised by MPPMCL is liable to be rejected on this ground alone.*
- ix. *MPPMCL by way of its Reply has contended that Petitioner has failed to furnished the necessary and specific information required under Regulation 31(2) which are as under:*
- (a) Details of proposed technology*
 - (b) Scope of the work*
 - (c) Phasing of expenditure*
 - (d) Schedule of completion*
 - (e) Estimated completion cost*
 - (f) Detailed computation of indicative impact on tariff*
 - (g) Any other information considered relevant by the generating company*
- x. *Without prejudice to the submissions made above, it is submitted that the contention raised by MPPMCL lacks merit and is liable to be rejected, in view of the fact that Petitioner has already provided the requisite information as provided under Regulation 31 of MPERC Tariff Regulations, 2020.*

Details of Proposed Technology

- xi. *It is submitted that the Petitioner had engaged Tata Consulting Engineers Limited (“TCEL”) to study and analyse the impact of the revised emission norms as enumerated in the MoEF&CC FGD Notifications. Based on their study and analysis, TCEL submitted a Feasibility Report in February 2019 which highlighted the various FGD technologies including :*
- a. Wet Limestone based FGD*
 - b. Sea-water based FGD*
 - c. Dry FGD*
 - d. Ammonia based FGD*

The above mentioned technologies were available to the Petitioner to reduce their emissions and match the revised standards set out in the FGD Notifications. The details of the various technologies available to the Petitioner are provided in Chapter IV of the Feasibility Report. CEA has approved the Feasibility Report vide their letter No. 44/FGD/UMPP/CEA/2019/271 dated 25.03.2019. Copy of the approval is attached herewith as Annexure-1.

- xii. *On the basis of the Report submitted by TCEL, Wet Limestone based FGD system was proposed to be the optimal system for the instant Project of the Petitioner considering that it would provide flexibility in firing different types of coal in the future, including coal with a sulphur content higher than 0.4%, due to the high absorption efficiency of 95% of the Wet Limestone based FGD System.*

Scope of the Work

- xiii. *The installation of the Wet Limestone based FGD system, which would bring down the present Sulphur Dioxide (“SO₂”) emission levels of the plant under 600 mg/Nm³ thereby complying with the norm prescribed in the FGD Notifications, would include the following works to be undertaken:*
- a. *SO₂ Removal systems*
 - b. *Water Treatment Systems*
 - c. *Electrical Systems*
 - d. *Control and Instrumentation System*
 - e. *Civil and Structural Works*

It is submitted that the same has been addressed in detail in the Feasibility Report.

Phasing of Expenditure

- xiv. *It is submitted that the proposed expenditure on account of implementation of the selected FGD system is proposed to be incurred in Financial Year 2021-2022, Financial Year 2022-2023 and Financial Year 2023-2024 in a phased manner.*

Schedule of Completion

- xv. *It is submitted that the process of bidding is still ongoing for the instant Station and the final schedule of completion can only be provided once a proposal for the installation of Wet Limestone based FGD system is accepted on completion of the bidding process and the estimated schedule for completion is provided by the selected bidder.*

The Bid submission date has been extended up to 31.12.2021. M/s. MPPMCL, Commercial Department has been kept fully apprised of the status of FGD implementation. Mail dated 04.10.2021 sent to Shri Ajasra Gupta, Commercial Department; MPPMCL is attached as Annexure-2.

Estimated Completion Cost

- xvi. *It is submitted that, as per the Feasibility Report submitted by TCEL, the hard cost for construction for implementation of the selected Wet Limestone based FGD system is expected to be Rs. 483.79 Crores (excluding IDC and IEDC) and the additional Operation and Maintenance (“O&M”) expenses will amount to Rs. 19.23 Crores per annum approximately.*

xvii. *The details of the hard cost and the operating cost are tabulated hereunder:*

PARTICULARS	AMOUNT (IN CRORES)
<i>Base cost (Including taxes and duties, contingency, engineering and Project Management) without IDC and IEDC</i>	<i>417.08</i>
<i>Loss of capacity charge due to shutdown of Generation for 30 days of each unit on account of duct interconnection</i>	<i>66.71</i>
Total Cost	483.79
Cost per MW without IDC and IEDC	Rs. 0.96 Crs/MW
PARTICULARS	AMOUNT (IN CRORES)
<i>Cost of Reagent</i>	<i>4.64</i>
<i>Additional Auxiliary Power Consumption</i>	<i>10.20</i>
<i>Additional clarified Water FGD</i>	<i>0.18</i>
<i>O&M Cost for FGD</i>	<i>5.10</i>
<i>By-product Associated Costs</i>	<i>-0.89</i>
Total Cost	19.23

Detailed Computation of Indicative Impact on Tariff

- xviii. *It is submitted that at this stage, a detailed computation of the indicative impact on tariff cannot be provided since the bidding process has not yet completed.*
- xix. *Thus, the indicative impact on tariff can only be calculated once the successful bidder provides the cost estimate for the installation of the FGD system at the instant Project. Furthermore, Ld. CERC in Petition No. 335/MP/2020 has held that detailed computation of Indicative Impact on Tariff can only be considered after implementation of ECS. Therefore, the information concerning the same would be provided as and when the ECS is implemented by the Petitioner.*
- xx. *In view of the facts and submissions made above, it is evident that the submissions of MPPMCL are devoid of any merits and are liable to be rejected. Therefore, the instant Petition filed by Petitioner under Regulation 8 of MPERC Tariff Regulations, 2020 is maintainable.*

Analysis of the petition:

Legal Provisions:

33. The subject petition has been filed by the petitioner for in-principle approval of additional capitalization to be incurred to comply the environmental norms notified by MoEFCC for thermal power stations. Therefore, let us see the provisions of MoEFCC notifications issued in this regard:

- i. In exercise of the powers conferred by Sections 6 and 25 of the Environment (Protection) Act, 1986, MoEFCC vide its Notification No. S.O. 3305(E) dated 7.12.2015 has amended the Environment (Protection) Rules, 1986, introducing revised standards for emission of environmental pollutants to be followed by all existing and under construction thermal power plants (TPPs). As per the MoEFCC Notification dated 7.12.2015, all TPPs were mandatorily required to comply with the revised emission control norms within a period of two years from the date of the MoEFCC Notification. Subsequently, vide notification dated 1.4.2021, the thermal power stations have been categorized in A, B and C category and the deadline for compliance of the revised emission control norms for different categories has been revised to December' 2022 to December' 2025 by the MoEFCC.
- ii. By way of the aforesaid notification dated 07.12.2015, the MoEFCC has specified certain standards to be met by thermal power plants on various parameters such as Water Consumption, Particulate Matter, Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Mercury (Hg). The norms prescribed by the MoEFCC vide Notification dated 7.12.2015 are as follows:

<i>Sr. No.</i>	<i>Industry</i>	<i>Parameter</i>	<i>Standards</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>5A.</i>	<i>Thermal Power Plant (Water consumption limit)</i>	<i>Water consumption</i>	<p><i>All plants with once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption up to maximum of 3.5 m³/MWh within a period of two years from the date of publication of this notification.</i></p> <p><i>All existing CT-based plants reduce specific water consumption up to maximum of 3.5 m³/MWh within a period of two years from the date of publication of this notification.</i></p> <p><i>New plants to be installed after 1st January, 2017 shall have to meet specific water consumption up to maximum of 2.5 m³/MWh and achieve zero waste water discharged</i></p>
<i>25</i>	<i>Thermal Power Plant</i>	<i>TPPs (units) installed before 31st December, 2003*</i>	
		<i>Particulate Matter</i>	<i>100mg/Nm³</i>
		<i>Sulphur Dioxide (SO₂)</i>	<i>600 mg/Nm³ (Units Smaller than 500 MW capacity units) 200 mg/Nm³ (for units having capacity of 500 MW and above)</i>

	<i>Oxides of Nitrogen (NOx)</i>	<i>600 mg/Nm³</i>
	<i>Mercury (HG)</i>	<i>0.03 mg/Nm³ (for units having capacity of 500 MW and above)</i>
	<i>TPPs (units) installed after [1st January, 2004], up to 31st December, 2016*</i>	
	<i>Particulate Matter</i>	<i>50 mg/Nm³</i>
	<i>Sulphur Dioxide (SO₂)</i>	<i>600 mg/Nm³ (Units Smaller than 500 MW capacity units) 200 mg/Nm³ (for units having capacity of 500 MW and above)</i>
	<i>Oxide of Nitrogen (NOx)</i>	<i>300 mg/Nm³</i>
	<i>Mercury (Hg)</i>	<i>0.03 mg/Nm³</i>
	<i>TPPs (units) to be installed from 1st January, 2017**</i>	
	<i>Particular Matter</i>	<i>30mg/Nm³</i>
	<i>Sulphur Dioxide (SO₂)</i>	<i>100mg/Nm³</i>
	<i>Oxides of Nitrogen (NOx)</i>	<i>100mg/Nm³</i>
	<i>Mercury(Hg)</i>	<i>0.03mg/Nm³</i>

- iii. The water consumption norms for Thermal Power Plants (TPPs) with Once Through Cooling (OTC), existing CT-based TPPs and new TPPs commissioned after 1.1.2017 were specified in the MoEFCC Notification. Further, norms for Particulate Matter, Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Mercury (Hg) for TPPs commissioned before 31.12.2003; TPPs commissioned after 1.1.2004 and up to 31.12.2016; and TPPs commissioned after 1.1.2017 were also specified. Subsequently, vide Notification G.S.R. 662(E) dated 19.10.2020, the MoEFCC relaxed the norms of NO_x for TPPs commissioned during the period 1.1.2004 and 31.12.2016 from 300 mg/Nm³ to 450 mg/Nm³.
- iv. Vide Notification No. 243(E) dated 1.4.2021, MoEFCC has extended the time limit, for implementation of the emission control system to comply with the revised emission control system through the Environment (Protection) Amendment Rules, 2021. The said Notification also provides for constitution of task force and environment compensation for operating TPPs beyond the specified timelines. The relevant portion of the Notification dated 1.4.2021 is reproduced as below:
- i. “A task force shall be constituted by Central Pollution Control Board (CPCB) comprising of representative from Ministry of Environment and Forest and Climate Change, Ministry of Power, Central Electricity Authority (CEA) and CPCB to categorise thermal power plants in three categories as specified in the Table-I on the basis of their location to comply with the emission norms within the time limit as specified in column (4) of the Table-I, namely:

<i>Sl. No.</i>	<i>Category</i>	<i>Location/Area</i>	<i>Timelines for Compliance</i>	
			<i>Non retiring units</i>	<i>Retiring units</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>
<i>1</i>	<i>Category A</i>	<i>Within 10 km radius of National Capital Region or cities having million plus population¹.</i>	<i>Upto 31st Dec. 2022</i>	<i>Upto 31st Dec. 2022</i>
<i>2</i>	<i>Category B</i>	<i>Within 10 km radius of Critically Polluted Areas² or Non-attainment cities²</i>	<i>Upto 31st Dec. 2023</i>	<i>Upto 31st Dec. 2025</i>
<i>3</i>	<i>Category C</i>	<i>Other than those included in category A and B</i>	<i>Upto 31st Dec. 2024</i>	<i>Upto 31st Dec. 2025</i>

- ii. *The thermal power plant declared to retire before the date as specified in column (5) of Table-I shall not be required to meet the specified norms in case such plants submit an undertaking to CPCB and CEA for exemption on ground of retirement of such plant:*

Provide that such plants shall be levied environment compensation at the rate of rupees 0.20 per unit electricity generated in case their operation is continued beyond the date as specified in the Undertaking;

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

<i>Non-Compliant operation beyond the Timeline</i>	<i>Environmental Compensation (Rs. per unit electricity generated)</i>		
	<i>Category A</i>	<i>Category B</i>	<i>Category C</i>
<i>0-180 days</i>	<i>0.10</i>	<i>0.07</i>	<i>0.05</i>
<i>181-365 days</i>	<i>0.15</i>	<i>0.10</i>	<i>0.075</i>
<i>366 days and beyond</i>	<i>0.20</i>	<i>0.15</i>	<i>0.10.”</i>

34. The subject petition has also filed in terms of the provisions MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2020 applicable for the control period FY 2019-20 to FY 2023-24. Therefore, some of the relevant provisions under aforesaid Regulations are as under:

- i. Definition of ‘Change in Law’ under Regulation 3.1(11) of the MPERC Generation Tariff Regulations, 2020 is as follows:

‘Change In Law’ means occurrence of any of the following events:

- (i) enactment, bringing into effect or promulgation of any new Indian law, or
- (ii) **adoption, amendment, modification, repeal or re-enactment of any existing Indian law, or**
- (iii) change in interpretation or application of any Indian law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation or application, or
- (iv) change by any competent statutory authority in any condition or covenant of any consent or clearances or approval or licence available or obtained for the project, or
- (v) coming into force or change in any bilateral or multilateral agreement/treaty between the Government of India and any other Sovereign Government having implication for the generating station regulated under these Regulations;

- ii. Regarding the in-principle approval of the additional capitalization under ‘Change in Law’ events or force majeure conditions, Regulation 8 of the aforesaid MPERC Generation Tariff Regulations, 2020 provides as under:

“8. In-principle Approval in Specific circumstances:

8.1 *The generating company 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.”*

- iii. With regard to Additional Capitalization on account of Revised Emission Standards, Regulation 31 of the aforesaid MPERC Generation Tariff Regulations, 2020 provides as under:

31. Additional Capitalization on account of Revised Emission Standards:

31.1 *A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emission standards shall share its proposal with the beneficiaries and file a petition before Commission for undertaking such additional capitalization.*

31.2 *The proposal under clause 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.

31.3 *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, and such other factors as may be considered relevant by the Commission.*

31.4 *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.*

35. The petitioner has sought in-principle approval for additional capitalization to be incurred for installation of flue gas de-sulphuration (FGD) system in compliance to applicability of new environmental norms notified by the MoEFCC in accordance with 'Change in Law' provisions under the Power Purchase Agreements (PPAs) dated 05.01.2011 and 06.09.2011, respectively. Therefore, let us look into the relevant provisions related to 'Change in Law' in the PPA. The provisions under Article 12 of PPA are as under:

i. As per Article 12.1.1 of the PPA dated 05.01.2011, the definition of Change in Law is as follows:

12.1.1. 'Change in Law' means

The occurrence of any of the following events after the date, which is seven (7) days prior to the execution of this PPA, resulting into any additional recurring/non- recurring expenditure by the Company or any income to the Company:

- i) The enactment, coming into the effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations and framed pursuant to such Law; or*
- ii) A change in the interpretation of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law or any Competent Court of Law; or*
- iii) The imposition of a requirement for obtaining any Consents, Clearances and permits which was not required earlier; or*

- iv) *A change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits; or*
- v) *Any change in tax or introduction of any tax made applicable for supply of power by the Company as per the terms of this Agreement*

But shall not include

- i) *Any change in any withholding tax on income or dividends distributed to the shareholders of the Company. Or*
- ii) *Change in respect of UI Charges or frequency intervals by an Appropriate Commissions; or*
- iii) *Any change on account of regulatory measures by the Appropriate Commissions including calculation of availability*
- iv) *The direction / direction and orders of the Appropriate commission including the orders passed on the petition seeking approval to this Agreement.*

- ii. Articles 12.2 and 12.4.1 of the PPA dated 05.01.2011 deal the relief for impact of any Change in Law event is to be sought through Tariff Payment to be decided by the commission. The relevant provisions are as under:

12.2 Application and Principles for computing impact of Change in Law

While determining the consequence of Change in Law under this Article 12, the Parties shall have due regard to the principle that the purpose of compensating the Party affected by such Change in Law, is to restore through Monthly Tariff Payment, to the extent contemplated in this Article 12, the affected Party to the same economic position as if such Change in Law has not occurred and such impact shall be as decided by the Appropriate Commission.

...

Tariff Adjustment Payment on account of Change in Law

12.4.1. Subject to provisions mentioned above, the adjustment in Monthly Tariff Payment shall be effective from:

- i) *The date of adoption, promulgation, amendment, re-enactment or repeal of the Law or Change in Law; or*
- ii) *The date of order/judgement of the Competent Court or tribunal or Indian Governmental Instrumentality, if the Change in Law is on account of a change in interpretation of Law.*

- iii. Regarding the Notification of Change in Law, 12.3.1 of the PPA provides as under:
-

“If the Company is affected by a Change in Law in accordance with this Article 12 and the Company wishes to claim relief for such a Change in Law under this Article 12, it shall give notice to the procurer of such Change in Law as soon as reasonably practicable after becoming aware of the same or should reasonably have know of the Change in Law.”

36. Vide letter dated 30.5.2018, the Ministry of Power issued directions to the Central Commission under Section 107 of the Electricity Act, 2003 to consider the additional cost due to installation of environmental control system as a pass through in tariff and has decided that the said MoEFCC notification dated 07.12.2015 is “Change in Law”.

37. The petitioner has also referred some orders issued by the Central Commission in which the CERC has hold that the enactment of new Environment Rules and Regulation Laws is a ‘Change in Law’ event.

Commission’s Observations and Findings:

38. The Ministry of Environment Forest and Climate Change vide notifications dated 7th December 2015 and 28th June 2018 issued new environment norms for thermal power stations. The said notifications revised the existing norms related to air emissions including Oxides of Nitrogen (NO_x), Sulphur Dioxide (SO₂), Particulate Matter, Mercury, quantum of water use and stack height in Thermal Power Plants. In the aforesaid notifications, separate norms have been provided for TPPs (units) installed before 31st December, 2003, TPPs (units) installed after 1st January, 2004 upto 31st December, 2016 and TPPs (units) installed after 1st January’ 2017.

39. The petitioner has sought in-principle approval of the Commission for additional capital expenditure to be incurred and additional operating cost for thermal power stations on applicability of “Change in Law” provisions under PPA for compliance of the new environmental norms (for installation of FGD systems) notified by MoEFCC vide notification dated 07.12.2015.

40. The petitioner submitted that in view of the new environmental norms as notified by the MoEFCC, its Power Station requires upgradation and which in turn would lead to additional capital expenditure in the plant. In compliance to the Article 12.3.2 of the PPA dated 05.01.2011, vide notice dated 01.05.2019, the petitioner has issued notice to the Respondents of the ‘Change in Law’ event and the effect of the same on the Project cost and O&M cost.

41. The petitioner has submitted the following:

- i. The units of 2x250 MW Bina thermal power project were commissioned on 31.08.12 and 07.04.2013, respectively. Therefore, the applicable air emission norms for this plant are as follows:

Year of Commissioning	Particulate Matter	Sulphur Dioxide (SO₂)	Oxides of Nitrogen (NO_x)	Mercury (Hg)
2003 - 2016	50mg/Nm ³	600 mg/Nm ³	300 mg/Nm ³	0.03 mg/Nm ³

- ii. The Bina TPP is in compliance with the emissions of particulate matter, mercury and water use and waste-water discharge norms, as applicable. Therefore, the petitioner's power plant is required to install FGD for reduction of SO₂ to the extent of MoEFCC notified norms.
- iii. The estimated hard cost of the FGD installation for petitioner's Bina TPP is Rs. 483.79 Crores (excluding IDC and IEDC) and the additional O&M expenses will be a sum of Rs. 19.23 Crores per annum. Hard Cost of FGD per MW without IDC & IEDC as envisaged in feasibility report is 0.96 Crore / MW.
- iv. Vide letter dated 25th March' 2019, CEA issued advise to the petitioner on suitable technology and indicative cost in installation of FGD to meet the new MOEF&CC Emission norms in Jaypee Bina Thermal Power Plant based on the petitioner's feasibility report and plant specific data provided by the petitioner. CEA also issued an advisory report detailing suggestive technology and indicative cost in installation of FGD Bina thermal power plant. It is observed that the CEA in its advisory report for Jaypee Bina has worked out indicative base cost for Limestone based FGD to Rs. 0.45 Crore/MW which does not includes opportunity cost related to interconnection and Taxes & Duties.
- v. The petitioner mentioned that the cost provided by CEA was only indicative in nature and does not represent the actual procurement cost. Further, the Central Commission has itself acknowledged that, in recent times, bids for installation of FGD system have been floated by other generating stations as well and these may lead to change in prices of FGD system in the international and domestic market. The petitioner also mentioned that the discovery of price in the instant case is being done through a transparent process of competitive bidding and the same would be subject to prudence check by this Commission. The petitioner has also filed a copy of letter dated 24.02.2021 issued by the Central Electricity Authority clarifying that the cost estimate given for FGD systems was indicative in nature and CEA is in process of reviewing its Guidelines/Advice on FGD cost and

- vi. In compliance to the Article 12 of the PPA dated 05.01.2011, the petitioner issued notice to the Respondents On 06.05.2019 pertaining to the 'Change in Law' event on account of the revised emission norms introduced and the subsequent impact on the Project cost and Tariff.
- vii. The petitioner initiated the bidding process in respect to Jaypee Bina TPP, however, on account of the outbreak of the pandemic, various bidders requested for the extension of dates for the submission of bids.

Respondent No. 1 (MPPMCL) response:

42. MPPMCL has primarily raised the following objections which are as under:

- (a) The petitioner has claimed the Additional Capitalization of excluding IDC, IEDC, variable cost and Additional O&M, therefore, Additional Capitalization cannot be claimed under Regulation 8 considering the fact that Regulation 8 only provides for in-principle approval of additional capitalization on account of Change in Law events or Force Majeure conditions with a ceiling limit of 10% of the estimated expenditure over the Admitted Capital Cost or Rs 100 Crores whichever is lower.
- (b) The subject Petition has been filed by petitioner under incorrect provision of law as the instant Petition was ought to have been filed under Regulation 31 instead of Regulation 8 of MPERC Tariff Regulations, 2020, therefore, petitioner has failed to furnish the necessary and specific information as required under Regulation 31(2) of the MPERC Tariff Regulations, 2020.
- (c) Instant Petition is filed under incorrect provision of law and in suppression of material facts, therefore, the present Petition is neither maintainable under Regulation 8 nor under Regulation 31 of MPERC Tariff Regulations, 2020 and a direction be passed to petitioner to file a Petition duly complied with the provisions of Regulation 31 of the MPERC Tariff Regulations, 2020.

43. In response to the aforesaid issues raised by the Respondent No. 1, the petitioner in its rejoinder has submitted the following:

- i. Regarding the maintainability of the petition, the petitioner submitted that the additional capitalization on account of 'Change in Law' or 'Force Majeure events' cover under Regulation 8 of the MPERC Regulations, 2020 as it has duly complied with the conditions as envisaged under Regulation 8. The conditions to be met in order to file Petition under Regulation 8 are Prior notice to the beneficiaries or the long term customers and Estimated

expenditure of the additional capitalization must exceed 10% of the admitted capital cost of the Project or Rs 100 Crore whichever is lower.

- ii. With regard to Prior notice to the beneficiaries or the long term customers, the petitioner on 06.05.2019 has served a 'Change in Law' Notice under clause 12.3.2 of Power Purchase Agreement notifying the 'Change in Law' events occurred on account of revised emission norms notified by MoEF&CC vide notification dated 07.12.2015 and 28.06.2018. Further, the estimated Additional capitalization claimed by the petitioner in the instant Petition on account of Change in Law events exceeds 10% of the admitted capital cost of the Project or Rs 100 Crore. In view of the above, the petitioner submitted that it has complied with the conditions as mentioned in Regulations 8 of the MPERC Tariff Regulations, 2020.
- iii. Regarding the specific information required under Regulation 31(2) of the Generation Tariff Regulations, 2020, the petitioner submitted that it has already provided the requisite information as provided under Regulation 31 of MPERC Tariff Regulations, 2020 based on the feasibility report submitted by the consultant. On the basis of the Report submitted by the consultant, Wet Limestone based FGD system was proposed to be the optimal system for the instant Project of the petitioner considering that it would provide flexibility in firing different types of coal in the future, due to the high absorption efficiency of 95% of the Wet Limestone based FGD System.
- iv. The petitioner mentioned that in (chapter V) the feasibility report prescribed the scope of work for installation of the Wet Limestone based FGD system, which would bring down the present Sulphur Dioxide ("SO₂") emission levels of the plant under 600 mg/Nm³ thereby complying with the norm prescribed in the FGD Notifications. Regarding the phasing of expenditure, the petitioner mentioned that the proposed expenditure on account of implementation of the selected FGD system is proposed to be incurred in Financial Year 2021-2022, Financial Year 2022-2023 and Financial Year 2023-2024 in a phased manner.
- v. With regard to schedule of completion, the petitioner submitted that the process of bidding is still ongoing and the final schedule of completion can only be provided once a proposal for the installation of Wet Limestone based FGD system is accepted on completion of the bidding process and the estimated schedule for completion is provided by the selected bidder. The Bid submission date has been extended up to 31.12.2021 and MPPMCL has been kept fully apprised of the status of FGD implementation.

- vi. As per the Feasibility Report submitted by the consultant, the hard cost for construction for implementation of the selected Wet Limestone based FGD system is expected to be Rs. 483.79 Crores (excluding IDC and IEDC) and the additional Operation and Maintenance (“O&M”) expenses will amount to Rs. 19.23 Crores per annum approximately. The aforesaid hard cost included the Loss of capacity charge of Rs. 66.71 Crore due to shutdown of Generation for 30 days of each unit on account of duct interconnection.
- vii. By an additional affidavit dated 6th November’ 2021, the petitioner has provided the details of indicative impact of tariff due to proposed additional capital expenditure to meet revised emission standards mentioning that the remaining information will get crystallised only when the bid process is over and the project is completed. On perusal of the aforesaid affidavit, it is observed that while arriving at indicative impact of tariff, the petitioner has considered the capital cost for emission control system as per the feasibility report of the consultant and norms for emission control system specified by the Central Commission. As per the aforesaid submission filed by the petitioner, the fixed cost shall tentatively be increased by 48.89 Crore in FY 2022-23 and Rs. 48.03 Crore in FY 2023-24. As per aforesaid submission, the energy charges shall also be increased by Rs. 0.048 / unit tentatively on operation of emission control system.

44. In view of the above observations and on perusal of the submissions by both the parties, the Commission has noted the following:

- i. In accordance with Article 12.3.2 of the PPA dated 05.01.2011, the petitioner issued notice to the Respondent No. 1 after notification for new environment norms issued by the MoEFCC, for additional capital expenditure to be incurred for compliance the same. On perusal of the definition of “Change in Law” event, it is observed that the MoEFCC Notification dated 07.12.2015 is a Change in Law event within the terms of the PPA between the parties. Further, vide letter dated 30.05.2018 issued by the Ministry of Power, Government of India in exercise of the powers conferred under Section 107 of the Electricity Act, 2003, issued directions to the Central Commission providing that issuance of the MoEFCC Notification dated 07.12.2015 is a ‘Change in Law’ event. Therefore, the compliance to the new environmental norms and capital expenditure to be incurred in this regard shall fall under the Change in Law.
- ii. Estimated capital expenditure (Rs. 483.79 Crores) indicated by the petitioner in compliance to the new environment norms is more than the 10% of the capital cost approved by the Commission (Rs. 3519.89 Crore) for thermal power plant and which is more than the Rs. 100 Crore as required under the Regulation 8 of the MPERC Generation Tariff Regulations, 2020, for in-principle

approval of the additional capital expenditure. Further, the petitioner filed the feasibility report prepared by the consultant which has incorporated most of the details required under Regulation 31. Regarding the indicative tariff, by additional affidavit dated 6th November' 2021, the petitioner has filed detailed calculations for indicative impact on tariff based on the feasibility report submitted by the consultant.

- iii. However, the project is at planning stage and competitive bidding for installation of FGD has to be carried out, therefore, the petitioner has submitted that the balance information shall be filed on completion of the bidding process. Therefore, the contention of the Respondent No. 1 that the subject petition is neither maintainable under Regulation 8 nor under Regulation 31 has no merit consideration.
- iv. The capital cost estimate for installation of FGD as submitted by the petitioner is based on the feasibility report submitted by the consultant. Further, the CEA had estimated the cost of FGD three years back when there was no compulsion of FGD in the country. Looking to the current situation, the CEA is in the process of reviewing its Guidelines/Advice on FGD cost and Technology.
- v. The petitioner has identified and proposed wet limestone based FGD system for reduction in SO₂ emissions taking into consideration the effectiveness, availability and cost of the Wet Limestone based FGD system, The petitioner has submitted that except the SO₂ emission, its power plant is fulfilling other environmental parameters notified by the MoEFCC, therefore, in-principle approval is shall be limited only for installation of FGD to meet the SO₂ emission within the prescribed limit.
- vi. In view of the aforesaid facts and circumstances, the Commission has not dealt with the capital cost scrutiny as well as other issues like O&M expenses, Auxiliary Consumption, shut down time etc. at this stage since it would be appropriate to deal with these issues while processing the petition for determination of tariff to be filed by the petitioner after installation and commissioning of the FGD in light of the provisions under MPERC Generation Tariff Regulations 2020 for determination of supplementary tariff.

45. The petitioner is required to file all details and documents related to actual expenditure in terms of the Regulation 31 of the MPERC Generation Tariff Regulations, 2020 with the petition to be filed for determination of tariff after commissioning of FGD system. All relevant details like cost discovered through competitive bidding, copy of work orders to different vendors, loan agreement along with terms and conditions of loan, detailed calculation for actual IDC, Auditor's certificate for actual expenditure,

FGD Commissioning certificate, details of actual SO₂ emission after commissioning of FGD and updated Asset-cum-Depreciation register incorporating FGD components shall be filed by the petitioner alongwith the aforesaid petition.

46. In view of the observations and findings, the Commission hereby accord “in-principle approval” for installation of FGD in 2x250MW Bina thermal power station under the provisions of MPERC Generation Tariff Regulations, 2020. The actual hard cost and soft cost including IDC, IEDC, indirect cost, taxes and duties etc. shall be dealt with and examined by the Commission in the petition to be filed by the petitioner for determination of tariff after commissioning of the FGD on capitalization of aforesaid cost in Annual Audited Accounts, in accordance with the Generation Tariff Regulations, 2020 and its amendment. Accordingly, the petitioner is directed to file an appropriate petition in accordance with the provisions under MPERC Generation Tariff Regulation, 2020 and its amendment for determination of tariff after commissioning and capitalization of FGD system in its Annual Audited Accounts.

With the above observations and findings, the subject petition No. 17 of 2021 is disposed of.

(Shashi Bhushan Pathak)
Member

(Mukul Dhariwal)
Member

(S.P.S Parihar)
Chairman