

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 209/MP/2019**

**Coram:**

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

**Date of Order: 6 May, 2020**

**In the matter of**

Petition under Section 79(1)(b) read with 79(1)(f) of the Electricity Act, 2003 and Article 10.1 of the Power Purchase Agreement dated 1.4.2013, for approval and consequent relief sought by the Petitioner due to a 'Change in Law' event viz. the introduction of new environmental norms by way of the Environment (Protection) Amendment Rules, 2015 issued by the Ministry of Environment, Forest and Climate Change dated 7.12.2015, impacting the revenues and costs of the Petitioner during the operating period

**And**

**In the matter of**

Sembcorp Energy India Limited  
6-3-1090, A Block,  
5<sup>th</sup> Floor, T.S.R. Towers,  
Rajbhawan Road, Somajiguda,  
Hyderabad-500082

.....**Petitioner**

Vs

- 1) Southern Power Distribution Company of Telangana Limited (TSSPDCL), Formerly, Central Power Distribution Company of Andhra Pradesh Limited), Through its Chief General Manager (Comml. & RAC), Mint Compound, Hyderabad-500063, Telangana
- 2) Southern Power Distribution Company of Andhra Pradesh Limited Through its Chief General Manager (P & MM, IPC) D.No.19-13-65/A, Kesavayanagunta, Tiruchanoor Road, Tirupati.
- 3) Northern Power Distribution Company of Telangana Limited (TSNPDCL), (Formerly, Northern Power Distribution Company of Andhra Pradesh Limited), Through its Chief General Manager (Comml. & RA),



Vidyuth Bhavan, Nakkalagutta,  
Hanamkonda, Warangal-506001

4) Eastern Power Distribution Company of Andhra Pradesh Limited,  
Through its Chief General Manager (Comml. & RA),  
P&T Colony, Seethammadhara,  
Visakhapatnam-530013

..... Respondents

**Parties Present:**

Shri Sanjay Sen, Sr. Advocate, SEIL  
Shri Nitish Gupta, Advocate, SEIL  
Ms. Parichita Chowdhury, Advocate, SEIL  
Ms. Swapna Seshadri, Advocate, Telangana Discoms (Respondents 1 and 3)  
Shri Damodar Solanki, Advocate, Telangana Discoms (Respondents 1 and 3)

**ORDER**

The Petitioner, Sembcorp Energy India Limited (SEIL), is a generating company having Thermal Power Project (hereinafter referred to as the Project) of 2x660 MW (1320 MW) installed capacity at Nellore, Krishnapatnam, Andhra Pradesh. The Respondents 1 and 3 are the distribution licensees in the State of Telangana and the Respondents 2 and 4 are the distribution licensees in the State of Andhra Pradesh. The Petitioner and Respondents 1-4 have, on 1.4.2013, executed a Power Purchase Agreement for 500 MW of power from the Project.

**Background**

2. Unit-1 of the Project was commissioned on 2.3.2015 and Unit-2 was commissioned on 15.9.2015. On 7<sup>th</sup> December, 2015, the Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC) issued a Notification (hereinafter referred to as the "2015 Notification") which mandatorily required all thermal power plants to comply with the revised environmental norms (hereinafter referred to as the "Revised Norms") on or before 6.12.2017 i.e. within a period of 2 years from the date of the 2015 Notification. The present Petition has been filed by



the Petitioner SEIL for the expenditure proposed to be incurred to comply with the 2015 Notification in its Project with the following prayers:

- a) *Declare that the amendment of the Environment (Protection) Amendment Rules, 2015 dated 7.12.2015 is a Change in Law event in accordance with the relevant provisions of the Power Purchase Agreement dated 1.4.2013;*
- b) *Approve the technology prescribed by the CEA and the indicative costs as mentioned in the present Petition to enable the Petition to comply with the Change in Law notification dated 7.12.2015;*
- c) *Declare that additional capital cost and operational cost along with other expenses shall be considered on an actual basis for the Change in Law relief in terms of the provisions of the PPA dated 1.4.2013;*
- d) *Pass such other further order(s) as the Commission may deem just and proper.”*

3. The Petitioner appointed Tata Consulting Engineers Limited (TCE) to prepare a feasibility report on the technology, equipment and cost estimates for implementing the necessary measures to comply with the Revised Norms. A copy of the report prepared by TCE was also submitted by the Petitioner to the Central Electricity Authority (“CEA”). CEA vide its letter dated 15.4.2019 has given its recommendations as regards installation of FGD system to the Petitioner.

#### **Submissions of the Petitioner**

4. The Petitioner vide affidavit dated 20.7.2019 in the Petition has submitted that with the introduction of the 2015 Notification, all new and existing thermal power stations were required to comply with the Revised Norms within a period of two years from the date of the 2015 Notification. MoEF&CC by way of the said amendment:

- a) revised emission parameters of Suspended Particulate Matter (SPM) to 50mg/Nm<sup>3</sup> instead of 100 mg/Nm<sup>3</sup> that existed under the then prevalent 1986 Rules;
- b) introduced emission limits for new substances:
  - (i) Sulphur Dioxide (SO<sub>2</sub>) emission limited to 200 mg/Nm<sup>3</sup>;



- (ii) Oxides of Nitrogen (NO<sub>x</sub>) emission limited to 300 mg/Nm<sup>3</sup>; and
  - (iii) Mercury (Hg) emission limited to 0.03 mg/Nm<sup>3</sup>.
- c) directed that all Thermal Power Plants (TPPs) with Once Through Cooling (“OTC”) shall install Cooling Tower (“CT”) and achieve a specific water consumption up to maximum of 3.5 m<sup>3</sup>/MWh.

5. The Petitioner has submitted that issuance of the 2015 Notification is a Change in Law event covered under Article 10.1 of the PPA. The Revised Norms specified in the 2015 Notification require the Petitioner to incur additional capital expenditure and operational expenditure.

6. The Petitioner has submitted that Flue Gas Desulphurization (FGD) system is required to meet new norms of SO<sub>2</sub> and Selective Non-Catalytic Reduction (“SNCR”) system is required to meet the new norms of NO<sub>x</sub>. The Revised Norms required to be met by the 2015 Notification were not included in the extant rules and regulations prevailing at the time of bid submission. The norms applicable upon the Petitioner’s Project after the 2015 Notification are as under:

<b>Table III: Applicable Emission Norms for the Project as per the 2015 Notification</b>				
<b>Year of Commissioning of Petitioner’s Power Plant</b>	<b>SPM</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Mercury</b>
2015	50 mg/Nm <sup>3</sup>	200 mg/Nm <sup>3</sup> for >500MW	300 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>

7. The Petitioner has submitted that as a result of the 2015 Notification, the Petitioner is compelled to incur additional expenditure towards the installation of FGD system, SNCR system and a water treatment system. Additional installation of plant, machinery and equipment on account of these will result in an increase in the capital expenditure and operation and maintenance expenditure of the Project. Further, there will also be an impact on the operational parameters such as the Auxiliary Power Consumption and the plant of the Petitioner would remain under shut down



during the period of installation and commissioning of these equipment. These would lead to a loss of revenue and increase in expenditure for the Petitioner.

8. As per the assessment of TCE to comply with new norms of SO<sub>2</sub>, the Petitioner will be required to incur an additional expenditure to the tune of approximately Rs. 0.51 crore/ MW on account of capital cost and approximately Rs. 9.27 lakh/MW/year on account of operation and raw material cost for installation of FGD system. To comply with the new norms of NO<sub>x</sub>, the estimated cost for SNCR and/or extensive modifications to combustion system, is Rs. 0.034 crore/MW (a total of Rs. 45 crores for two units of the Project) on account of capital cost and Rs.1.11 lakh/MW on account of operation and raw material cost.

9. The Petitioner has submitted that the aforesaid estimate covers one-time capital expenditure and recurring operational expenditure for the remaining tenure of the PPA but does not include the estimate of cost of Interest During Construction (IDC), applicable taxes, margin money for working capital, exchange rate variation and cost of hedging, pre-operative expenses, escalation on the Secondary Fuel Oil costs and Start Up Power and Return on Equity (ROE).

10. The Petitioner has submitted that CEA in its report dated 15.4.2019 has analyzed the technologies in respect of the Petitioner's Project for compliance with the 2015 Notification and given its recommendations as regards technology, engineering aspects, auxiliary power consumption, indicative cost estimation, capital expenditure, operational expenditure and opportunity cost.

### **Submissions of the Respondent No.1 (TSSPDCL)**



11. The Respondent TSSPDCL in its reply vide affidavit dated 20.11.2019 has submitted that the Petitioner has not furnished the actual emission profile of the Project as recorded on the cut-off date and at present the Project of the Petitioner is already complying with the revised SO<sub>2</sub> and NO<sub>x</sub> norms.

12. The Petitioner is required to submit all relevant consents and clearances and the standards prescribed by the Central Pollution Control Board (CPCB) and the Andhra Pradesh Pollution Control Board as on the cut-off date. The Petitioner is also required to submit the actual readings of the emissions emitted from the Project since COD of its units and to state whether any material change has been brought about by the 2015 Notification as regards the Project.

13. The Respondent No. 2, APSPDCL vide affidavit dated 18.2.2020 has submitted that Respondents 2 and 4 also adopt the reply filed by The Respondent TSSPDCL.

#### **Rejoinder of the Petitioner**

14. The Petitioner in its rejoinder dated 26.12.2019 has reiterated that at this stage it is only praying that the 2015 Notification be declared as a 'Change in Law' event affecting the Project of the Petitioner and that the declaration that additional capital cost and operational cost along with expenses on account of generation loss, reduction in efficiency, deterioration of heat rate and other expenses, be considered on actual basis for change in law relief in terms of provisions of the PPA to ensure that the Petitioner is brought to the same economic position as if such Change in Law event has not occurred.



15. With regard to the details as sought by the Respondents, the Petitioner has submitted that a letter dated 10.7.2019 shows that the Petitioner has answered all the questions raised by the Respondents in their letter dated 29.6.2019. The Petitioner has provided the Respondents with the manual for boiler providing technical details of boiler including burner, the ESP sizing calculation sheet, the actual existing SPM emissions of the plant, and the details of water consumption. Therefore, the allegation of the Respondents that the Petitioner has not provided details as sought is incorrect.

16. The Petitioner has submitted that all disputes as to whether the Petitioner is obligated to install FGD and SNCR systems is put to rest in terms of the letter of Central Pollution Control Board (CPCB) dated 11.12.2017, which has directed the Petitioner to install the same. Further, the CEA's letter dated 15.4.2019 also substantiates the need for installation of FGD and SNCR systems. CEA has also provided technical recommendations for installation of FGD and SNCR systems, which itself demonstrates that the Petitioner's Project was not compliant with the Revised Norms as per the 2015 Notification. Prior to the 2015 Notification, FGD and SNCR systems were required to be installed only for meeting the ambient air quality norms. The norms of SO<sub>2</sub> in stack emission have been introduced only through the 2015 Notification. The Revised Norms can only be met by undertaking construction of new FGD system and SNCR system as the existing emission control systems at the Project have been envisaged and developed keeping in mind the emission norms prevalent prior to the 2015 Notification viz. the National Ambient Air Quality Standards.



17. The Commission vide ROP of the hearing dated 27.2.2020, directed the Petitioner to provide the following details:

- (a) Environment Clearance in respect of Project;
- (b) Upfront allocation of funds for the environmental protection measures at the inception of the Project, if any;
- (c) Details of cost estimates submitted to lenders for financial closure of the Project;
- (d) Clarify as to whether the requirement of FGD was envisaged in the Investment Approval;
- (e) Six monthly report filed before CPCB for any period around December, 2015; and
- (f) Cost benefits analysis of the selected technology out of the two technologies suggested by CEA in its recommendation dated 15.4.2019.

18. The Petitioner vide affidavit dated 13.3.2020 in its reply to the directions of the Commission has submitted a copy of the Environment Clearance and stated that an amount of approximately Rs. 933.5 crore was allocated for environment protection measures. The activities for which this amount was allocated in terms of the Environmental Clearance were limited to Electrostatic Precipitator/ Bagfilters; desalinization plant; ash handling system; dust extraction and suppression system; sewage collection, treatment and disposal; Green Belt, afforestation, and landscaping; environmental laboratory equipment (including online emission monitoring system); cooling towers etc. The Petitioner has submitted that no funds were allocated towards FGD system as the same was not envisaged under the Environmental Clearance. The Petitioner has also submitted that the requirement of FGD was not envisaged in the Investment Approval. In this regard, the Petitioner has placed on record the stack emission data from January 2016 to December 2019. The





Petitioner has also submitted cost benefit analysis of the selected technology (wet limestone based FGD system) out of the two technologies recommended by CEA.

19. The Respondent TSSPDCL vide affidavit dated 19.3.2020 has submitted that instead of placing any detailed material which shows that no funds were allocated towards FGD system, the Petitioner has only made a statement and the breakup of the original project cost has not been submitted. Since the Investment Approval or the original project cost and its breakup has not been placed on record by the Petitioner, this remains a bald statement and is difficult to accept.

20. The Respondent TSSPDCL has submitted that the stack emission data placed on record by the Petitioner shows that it has already achieved the norm of 300 mg/Nm<sup>3</sup> of NOx on an average while the maximum NOx is upto 350 mg/Nm<sup>3</sup> which is clearly a compliance of the NOx norms. Even without installing any additional system as sought to be done in the present petition, the Petitioner seems to be complying with the NOx norms. Hence, no case is made out by the Petitioner to claim any additional capital expenditure towards compliance of NOx norms. The Respondent has further submitted that with respect to cost benefit analysis of the technology, it is observed that for wet-limestone FGD, the Petitioner has given the breakup of the capital cost including the total landed cost inclusive of taxes, requirement for the worst coal, annual total operating hours available etc. to arrive at the annual cost of ₹ 2047.65 lakhs. However, no such breakup is given for sea water-based FGD and substantial cost have been added as annual dredging/ clearing cost for the sea water-based FGD. The capital cost for sea water-based FGD, therefore, is not clear from the comparison table given by the Petitioner.



## **Analysis and Decision**

21. Based on the submissions of the Petitioner, replies of the Respondents, rejoinders and other documents placed on record, the main issue which arise for the consideration in the present petition is:

**Issue No. 1: Whether the 2015 Notification qualifies to be considered as an event of Change in Law in terms of the PPA dated 1.4.2013 between the Petitioner and the Procurer-Respondents?**

**Issue No. 2: If so, whether the requirement of notice as per the provisions of Article 10 of the PPA have been complied with by the Petitioner?**

**Issue No. 3: Whether provisional approval of capital expenditure can be granted to the Petitioner for incurring proposed expenditure towards installation of FGD system?**

**Issue No. 4: Whether additional capital cost and operational cost along with other expenses shall be considered on an actual basis for the Change in Law relief in terms of the provisions of the PPA dated 1.4.2013?**

**Issue No. 5: What shall be the norms and mechanism for computing the adjustment in tariff corresponding to the additional investment and increase in the operating costs due to the 2015 Notification so as to restore the petitioner to same economic position as if such Change in Law event has not occurred?**

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

**Issue No.1: Whether the 2015 Notification qualifies to be considered as an event of Change in Law in terms of the PPA dated 1.4.2013 between the Petitioner and the Procurer-Respondents?**

23. The Petitioner has entered into a PPA dated 1.4.2013 with the procurer-Respondents i.e. four distribution licensees of the then undivided State of Andhra Pradesh after the Petitioner (formerly known as Thermal Powertech Corporation India Ltd.) was selected as the seller for sale and supply of electricity in bulk to the procurers for the aggregate contracted quantum of 500 MW in accordance with the



terms of Agreement. Article 10 of the PPA which deals with Change in Law is extracted as under:-

## **10 ARTICLE 10: CHANGE IN LAW**

### **10.1 Definitions**

*In this Article 10, the following terms shall have the following meanings:*

*10.1.1 "Change in Law" means the occurrence of any of the following events after the date, which is seven (7) days prior to the Bid Deadline resulting into any additional recurring/ non-recurring expenditure by the Seller or any income to the Seller:*

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

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

### **10.2 Application and Principles for computing impact of Change in Law**

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

### **10.3 Relief for Change in Law**

*10.3.1 During Construction Period, in case the Seller is not a Trading Licensee*

*As a result of any Change in Law, the impact of increase/decrease of Capital Cost of the Power Station in the Tariff shall be governed by the formula given below:*

*For every cumulative increase/ decrease of each Rupees one point two five (1.25) lakh per MW of Contracted Capacity in the Capital Cost during the Construction Period, the increase/ decrease in Non Escalable Capacity Charges shall be an amount equal to zero point two six seven (0.267%) of the Non Escalable Capacity Charges. In case of Dispute, Article 14 shall apply.*

*It is clarified that the abovementioned compensation shall be payable to either Party, only with effect from the date on which the total increase/ decrease exceeds amount of Rs one point two five (1.25) lakhs in per MW Capital Cost, in relation to the Installed Capacity.*

#### **10.3.2 During Operating Period**



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

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

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

24. As per definitions and interpretation in Article 1 of the PPA dated 1.4.2013

“Competent court of Law” means:

*“Any court or tribunal or any tribunal or any similar judicial or quasi-judicial body in India that has jurisdiction to adjudicate upon issues relating to this agreement.”*

25. Law has been defined in the definitions and interpretation of the Article 1 of

PPA as under:-

*“Law” shall mean in relation to this Agreement, all laws including Electricity Laws in force in India and any statute, ordinance, regulation, notification or code, rule, or any interpretation of any of them by an Indian Governmental Instrumentality and having force of law and shall further include without limitation all applicable rules, regulations, orders, notifications by an Indian Governmental Instrumentality pursuant to or under any of them and shall include without limitation all rules, regulations, decisions and orders of the Appropriate Commission.”*

26. As per the above definition, Law means (a) all laws including Electricity Laws in force in India; (b) any statute, ordinance, regulation, notification or code, rule or their interpretation by an Indian Government Instrumentality which has force of law; (c) includes any statute, applicable rules, regulations, orders and any notifications by an Indian Government Instrumentality pursuant to or under any of them; and (d) all rules, regulations, decisions and orders of Appropriate Commission. Indian Government Instrumentality has been defined as *“the GOI, Government of States where the Procurers and Project are located and any ministry or department of or board, agency or other, regulatory or quasi-judicial authority controlled by GOI or*



*Government of States where the Procurers and Project are located and includes the Appropriate Commission.”*

27. MoEF&CC is a Ministry under Government of India and, therefore, is an Indian Government Instrumentality. The Environment (Protection) Rules, 1986 was issued by MoEF&CC in exercise of powers conferred under Sections 6 and 25 of the Environment (Protection) Act, 1986 which qualify as “law” in terms of the PPA dated 1.4.2013. The norms for emission of environmental pollutants to be complied with by the thermal power plants were prescribed in Schedule I of Environment (Protection) Rules, 1986. The Petitioner has submitted that in terms of the extant rules and regulations prevailing at the time of bid submission, the Petitioner was not required to comply with any other emission standards except the PM emissions.

28. The Ministry of Power, Government of India in its letter dated 30.5.2018 has issued directions to this Commission under Section 107 of the Electricity Act, 2003 (hereinafter referred to as the “Act”) with regard to the implementation of the Revised Norms as per the 2015 Notification. The said letter is extracted as under:

*“No.23/22/2018- R & R  
Government of India  
Ministry of Power*

*Shram Shakti Bhawan, Rafi Marg  
New Delhi, 30th May, 2018*

*To  
The Chairperson,  
Central Electricity Regulatory Commission  
Chanderlok Building,  
Janpath, New Delhi-110001*

*Subject: Mechanism of implementation of new Environmental norms for thermal power plants (TPP) supplying power to distribution licensees under concluded long term and medium term power purchase agreement (PPA)*

*Sir,*

*Ministry of Environment, Forest and Climate Change (MoEFCC) has notified the Environment (Protection) Amendment Rules, 2015 on 7th December, 2015 thereby introducing revised emission standards for Thermal Power Plants (TPPs). The revised emission standards are applicable to existing as well as upcoming TPPs. To*



meet the revised emission standards, the TPPs would have to install or upgrade various emission control systems like Flue-gas desulfurization (FGD) system, Electro-Static Precipitators (ESP) system etc.

2. As per implementation plan prepared by Central Electricity Authority (CEA), the existing TPPs are required to comply with the new emission standards by the year 2022.

3. Implementation of revised emission standards would face challenges relating to stringent timelines, availability of suppliers and technology, shut down for longer periods, and revenue loss during shutdown. It would also have significant implications on the tariff agreed under the long term and medium term Power Purchase Agreement (PPA) due to additional infrastructure and operational cost on account of large scale installations, renovations & retrofitting of existing plant and machinery to meet revised emission norms.

4. In view of the nature of cost involved in implementation of revised standards of emission and the provisions of Power Purchase Agreement, there is a need to develop the appropriate regulatory framework specifying the mechanism or enabling guidelines for providing regulatory certainty to the TPPs about recovery of such additional costs through tariff. It is important to ensure implementation of the revised standards of emission for TPPs for controlling pollution level in the larger public interest.

5. After considering all aspects and with due regard to the need for safeguards against environmental hazards, and accordingly to ensure timely implementation of new environment norms, the Central government has decided that-

5.1 The MOEFCC Notification requiring compliance of Environment (Protection) Amendment Rules, 2015 dated 7th December, 2015 is of the nature of Change in law event except in following cases:

(a) Power Purchase Agreements of such TPPs whose tariff is determined under Section 63 of the Electricity Act, 2003 having bid deadline on or after 7th December, 2015; or

(b) TPPs where such requirement of pollutions control system was mandated under the environment clearance of the plant or envisaged otherwise before the notification of amendment rules;

5.2 The additional cost implication due to installation or up-gradation of various emission control systems and its operational cost to meet the new environment norms, after award of bid or signing of PPA as the case may be, shall be considered for being made pass through in tariff by Commission in accordance with the law.

5.3 The respective TPPs may approach the Appropriate Commission for approval of additional capital expenditure and compensation for additional cost on account of this Change in law event in respect of the Power Purchase Agreement entered under Section 62 or Section 63 of the Electricity Act, 2003.

5.4 For the TPPs that are under the purview of the Central Commission, the Commission shall develop appropriate regulatory mechanism to address the impact on tariff, and certainty in cost recovery on account of additional capital and operational cost, under concluded long term and medium term PPAs for this purpose.

6. The Central Government, in exercise of the power conferred under Section 107 of the Electricity Act 2003 issues directions to the Central Electricity Regulatory Commission to implement the above decision of the Government. This direction is being issued to facilitate the smooth implementation of revised emission standards of the Environment (Protection) Amendment Rules, 2015 dated 7th December, 2015 for Thermal Power Plants in the larger public interest.



7. This issues with the approval of Minister of state (IC) for Power and NRE.

*Yours faithfully*

*Ghanshyam Prasad  
Chief Engineer”*

29. Thus, the Central Government in exercise of its power under Section 107 of the Act has declared that the 2015 Notification requiring compliance of Environment (Protection) Amendment Rules, 2015, is of the nature of Change in law event except in cases (a) where the Power Purchase Agreements of such thermal power plants have been determined under Section 63 of the Act having bid deadline on or after 7.12.2015; or (b) thermal power plants where such requirement of pollutions control system was mandated under the environment clearance of the plant or envisaged otherwise before the notification of amendment rules. In the case of the Petitioner, the bid deadline was 1.10.2010 and therefore, the case of the Petitioner does not fall within the first exception as per the aforesaid letter. As regards the second exception, at (b) above, the environmental clearance of the Petitioner's Project did not envisage installation of FGD and SNCR systems. On a specific query by the Commission to clarify whether the requirement of FGD was envisaged in the investment approval, the Petitioner has submitted that the requirement of FGD was not envisaged in the investment approval.

30. In response to the submission of the Respondents that the Petitioner's Project is already complying with the revised SOx and NOx norms, the Petitioner has submitted the summary of present air emission levels and need for abatement measures. The Petitioner has also submitted the letter of CPCB dated 11.12.2017 which has directed the Petitioner to install the equipment for compliance with Revised Norms. The Petitioner has also relied upon CEA's letter dated 15.4.2019 that



requires the need for installation of the FGD and SNCR systems in support of the claim that the Petitioner's Project is not compliant with the Revised Norms as per the 2015 Notification. The Petitioner has submitted that it is required to install FGD system for limiting SO<sub>2</sub> emission within the Revised Norms. As regards the NO<sub>x</sub>, the Petitioner has submitted that the permissible limit of 300 mg/Nm<sup>3</sup> (6% O<sub>2</sub>, dry basis) would be achievable at part load and at full load operation (depending on quantum of coal fired), with combustion control techniques alone. However, if the combustion tuning and optimization is not adequate to meet the new limits, then Selective Non-Catalytic Reduction (SNCR) technology with a minimum designed reduction efficiency of 35% is proposed to be installed, which is a post-combustion control technology and would treat the flue gas before emission. With regard to SPM and mercury emission, the Petitioner has submitted that the current ESPs (Electrostatic precipitators) are adequate to achieve the SPM set point of 50 mg/Nm<sup>3</sup> and will also reduce mercury emission. Hence, no retrofit is required for controlling SPM and mercury at this stage.

31. In view of the above, we are of the opinion that the Project is impacted by the 2015 Notification and has to undertake activities to comply with the Revised Norms of SO<sub>2</sub> and NO<sub>x</sub> through installation of FGD system and SNCR system respectively. There was no requirement of installation of these systems in the Environmental Clearance granted to the Project. We note that the bid deadline date in the instant case 1.10.2010 and cut-off date (7 days prior to the bid deadline) is 24.9.2010. Since the 2015 Notification has been issued on 7.12.2015, i.e. after the cut-off date, the Revised Norms qualify as events under change in law in terms of the PPA dated 1.4.2013. The Unit-2 of the project has achieved commercial operation on 15.9.2015 which is prior to the 2015 Notification. Therefore, the change in law events brought





about through the 2015 Notification shall qualify as change in law during the operating period in terms of the PPA dated 1.4.2013.

**Issue No. 2: If so, whether the requirement of notice as per the provisions of Article 10 of the PPA have been complied with by the Petitioner?**

32. Article 10.4 provides for the Notification of Change in Law. Article 10.4 of the PPA is extracted as under:

*10.4 Notification of Change in Law*

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

*10.4.2 Notwithstanding, Article 10.4.1, the Seller shall be obliged to serve a notice to the Procurer(s) under this Article 10.4.2, even if it is beneficially affected by a Change in Law. Without prejudice to the factor of materiality or other provisions contained in this Agreement, the obligation to inform the Procurer(s) contained herein shall be material.*

*Provided that in case the Seller has not provided such notice, the Procurer(s) shall have the right to issue such notice to the Seller.*

*10.4.3 Any notice served pursuant to this Article 10.4.2 shall provide, amongst other things, precise details of:*

- (a) the Change in Law; and*
- (b) the effects on the Seller.*

33. As per the above provisions, if the Seller is affected by Change in Law under Article 10.1, in order to claim change in law under the said Article, it is required to give a notice to the Procurers about occurrence of Change in Law as soon as reasonably practicable after becoming aware of the same. The 2015 Notification was issued on dated 7.12.2015 and the Petitioner has submitted that by way of communication dated 17.7.2017 and 3.6.2019, the Petitioner duly informed the Respondents and apprised them of the Notification and the consequent measures it will have to undertake to comply with the Revised Norms. In our view, the Petitioner has complied with the requirement of notice under Article 10.4 of the PPA.



**Issue No. 3: Whether provisional approval of capital expenditure can be granted to the Petitioner for incurring proposed expenditure towards installation of FGD system and SNCR system?**

34. The Petitioner had appointed TCE for estimation and preparation of feasibility report with regard to installation of systems for compliance of the 2015 Notification. TCE in its report has estimated capital cost of Rs. 0.51 crore/MW for wet limestone based FGD and Rs. 0.98 crore/MW for sea water based FGD and submitted that the estimated capital cost for sea water based FGD is higher due to the requirement of large sea water intake system as the project operates on closed cycle sea water cooling system. TCE in its report has submitted that based on life cycle of the Project and cost estimates, wet limestone based FGD system is economical as compared to sea water based FGD system. The breakup of capital expenditure for selected wet limestone based FGD system as estimated by TCE is as under:

Sl. No.	CAPEX (capital expenditure for FGD system)	Item wise cost break up (in Rs. lakh)	Remarks
1.	FGD Equipment & related mechanical works cost for Two units	39000	
2.	Miscellaneous Mechanical Works cost (Common facilities for both Units)		
2.1	Limestone Handling	850	
2.2	Gypsum Handling	220	
2.3	New Desalination plant	6500	
2.4	Mechanical Miscellaneous	200	
3	Total Electrical works cost (for FGD and related common facilities) of Two Units	2300	
4	Total Civil works cost (for FGD and related common facilities) of Two Units	6350	
5	New Chimney cost for Two units	7500	
6	Cost of Spares at 3% on Items 1, 2, 3 & 5	1472	
	Total Cost of Works	64392	
	COST OF FGD & ESP RETROFIT PER MW IN Rs. LAKH/ MW	48.78	
7	Contingency at 3% of total works cost	1931.8	
8	Engineering and Project Management cost @ 1.5%	965.9	
	Total Cost of Works including Contingency, Engineering & Project Management	67290	Excl. Taxes, Insurance, duties and IDC
	COST OF FGD & ESP RETROFIT PER MW IN Rs. LAKH/ MW	50.98	



35. The above estimate as per TCE report was submitted by the Petitioner to the Central Electricity Authority (“CEA”). CEA vide its letter dated 15.4.2019 has recommended the indicative estimated cost of Rs. 0.392 crore/MW which is including the base cost of Rs. 0.37 crore/MW and additional cost of Rs. 0.022 crore/MW for piling foundation works for wet limestone based FGD.

36. The recommendations of CEA for FGD system for the Petitioner’s Project (including another thermal power plant of 1320 MW i.e. Project-II of the Petitioner) is as under:

**Project-I**

Unit # 1 - March, 2015

Unit # 2 - September, 2015

**Project-II**

Unit # 1 - November, 2016

Unit # 2 - February, 2017

*The applicable SO<sub>2</sub> emission limit for SEIL is 200 mg/Nm<sup>3</sup> for UNIT-1, 2 of Project-1 and UNIT-1 of Project-2. The SO<sub>2</sub> emission limit for UNIT-2 of Project-2 is 100 mg/Nm<sup>3</sup> To take care of variation in operating input parameters such as deterioration in coal quality, higher sulphur content in coal, higher flue gas temperature and flow, higher plant heat rate etc. sufficient design margin needs to be considered on actual performance parameters.*

**APPLICABLE NORMS FOR THE SEIL**

<b>UNIT</b>	<b>Year</b>	<b>SPM</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Mercury</b>
UNIT-1, 2 of Project-1 and UNIT-1 of Project-2	2003-2016	50 mg/Nm <sup>3</sup>	200 mg/Nm <sup>3</sup>	300 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>
UNIT-2 of Project-2	2017 onward	50 mg/Nm <sup>3</sup>	100 mg/Nm <sup>3</sup>	300 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>

**Technology**

*In feasibility report SEIL (PROJECT-1&2) has opted for “Wet Lime Stone” based FGD technology. However, following two So<sub>2</sub> removal technologies are technically feasible at SEIL (PROJECT-1&2).*

- i. Wet Lime stone Base FGD.
- ii. Sea water based FGD.

*In case Wet FGD (Lime stone based) is considered by SEIL (PROJECT-1&2), the reagent source may be selected based on availability of limestone, limestone purity, cost and quality. Additionally Source of limestone should be chosen with life cycle cost analysis.*

*In case of Sea Water based FGD is considered for this plant. The additional water*



requirement (if any) for FGD may be taken care off.

SEIL (For PROJECT-1&2) to make lifecycle cost benefit analysis and seeing technical feasibility before opting for either of above mentioned technologies for optimization of CAPEX, OPEX and subsequent implication on tariff.

### **ENGINEERING ASPECTS (FOR EACH PROJECT)**

1. Absorber-Individual absorber for each Unit.
2. Limit SO<sub>2</sub> below environment norms with up to 0.6 % Sulphur content in Coal.
3. **Absorber Lining** - Such as Ceramic Tiles/clad sheet of C-276/Alloy 59 /Steel Alloy/Glass flake filled multi-functional epoxy /glass flake lining etc.
4. **Other lining** - All ducts, effluent handling pits or concrete zone etc. to be protected with glass flake based coating/ Steel Alloy Lining etc. Piping may be of flake glass based coating/carbon steel rubber lined (CSRL)/rubber lining however lesser diameter pipes can be of GRP( Glass Reinforced Plastic)/FRP (Fibre Glass reinforced Plastic)/ Alloy Steel material etc.
5. **Monitoring System**- Measurement of SO<sub>2</sub> in the outlet and inlet are important for the calculation of the FGD efficiency and control the amount of reagent. The important parameters for deciding monitoring system are response time (shorter the better), less inventory (common for inlet and outlet), less maintenance (high maintenance interval). In view of this proven advance technology may accordingly be selected considering the plant specific requirements.
6. **Auxiliary Power Consumption**- The maximum Additional Auxiliary power Consumption (APC) for complete FGD facilities either of Sea water based FGD or Limestone base FGD will be 1.0%.  
If the existing chimney is used, the requirement of GGH may be seen. The additional Auxiliary Power Consumption with GGH (only if using old chimney) will be maximum 0.3%.

### **INDICATIVE COST ESTIMATION**

An indicative Base cost estimation is done by CEA in order to facilitate SEIL determine the price for installation of FGD on the major heads of CAPEX & OPEX.

### **CAPEX (FOR EACH PROJECT)**

The indicative estimated cost for Limestone based FGD has been estimated Rs.0.37 Cr/MW (BASE COST) + (0.022 Cr/MW for piling foundation works as proposed by SEIL).

This indicative cost is the "Base Cost" only and does not include Opportunity cost (associated with generation loss due to interconnection of chimneys with absorber) and Taxes-Duties. This Indicative "Base cost is calculated considering new chimney without GGH.

The cost of retrofitting FGD for SEIL should be discovered through open competitive bidding in consultation with lead procurer. The lead procurer (to be invited by SEIL) may participate in bidding process till final award of FGD contract.

**NOTE:** In feasibility report SEIL have proposed an additional CAPEX expenditure of 65 Cr for desalination plant for FGD and 10 Cr for corrosion protective painting works of FGD, SEIL is advised to approach regulator at an appropriate stage for these additional plant specific works and associated CAPEX implication on tariff.

### **OPEX**

Operating Cost (OPEX) will include Reagent cost, Additional water consumption associated with FGD, Manpower cost, Auxiliary Power Consumption, By-product handling and revenue earned through disposal of by product. The OPEX should be



*kept as low as possible by reducing Auxiliary Power Consumption and producing good quality of saleable by-product.*

**OPPORTUNITY COST**

*Since interconnection of chimneys with absorber may result in loss of generation of the plant, hence SEIL is advised to minimize this interconnection time by taking suitable measure so that the "Opportunity cost" associated with interconnection may have least impact on tariff revision.*

37. We note that CEA in its report has not provided the breakup of the recommended cost estimate (Rs. 0.392 crore/MW) and has rather suggested that the FGD system installation should be done through the process of open competitive bidding in consultation with representative of the major PPA stakeholders and that the stakeholders may be invited to participate in the bidding process. However, the responsibility for adhering to timelines prescribed by pollution control board was the sole responsibility of the Petitioner.

38. From the comparison of the estimates, it is observed that there is difference of Rs. 0.118 crore/MW (0.51 - 0.392) between the estimates of the Petitioner (based on TCE report) and recommendations of CEA. With respect to the concern of the Petitioner that the estimated cost as per recommendations of CEA was on lower side, CEA on 15.5.2019 has informed the Petitioner that the recommendation of CEA were only indicative in nature and that the actual costs can be discovered at a later stage upon completion of open competitive bidding.

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.

40. Issue regarding CEA recommended cost has been dealt with by the Commission in the matter of Maithon Power Ltd. in Petition No. 152/MP/2019. Though the tariff in case of Maithon Power Ltd. is determined as per provisions of Section 62 of the Act, while in the instant case, tariff has been determined as per Section 63 of the Act, the principles as regards costs recommended by CEA and the prices discovered in competitive bidding process remain the same. Relevant extract of the Order dated 11.11.2019 is as under:

*“21. As regards the estimated expenditure, it is observed that there is difference of Rs.0.32Cr/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.0.337 Crore/MW, including spares. This difference of Rs0.101 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 recognizing 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”.*



41. Considering the above and recognizing the fact that the cost considered by CEA is indicative only and the cost claimed by the petitioner would be discovered based on open competitive bidding, the Commission allows the indicative cost of Rs.0.392 crore/MW recommended by CEA on provisional basis. The Commission also allows, subject to prudence check, the Petitioner to claim expenditure towards IDC, taxes & duties, FERV (if any) and expenditure towards project management & engineering services at actuals after commissioning of the FGD system.

42. With regard to NO<sub>x</sub> control system, the Petitioner has submitted as under:

*“To comply with the new norms of NO<sub>x</sub>, the estimated cost for SNCR or/and extensive modifications to combustion system, is Rs 0.034 Crores/MW (Rs.45 crores for two units) on account of capital cost and Rs.1.11 lakh/MW on account of operation and raw material cost”*

43. Further, the Petitioner in its rejoinder has submitted that the CEA has not approved any indicative cost with regard to NO<sub>x</sub> control system as the same is subjective i.e. certain projects can achieve the new norms by modifying the combustion control system and some other plants may have to go for SNCR. As such, in absence of such indicative cost, the cost of NO<sub>x</sub> control system (combustion control/ SNCR) is not being allowed on provisional basis at this stage. In this regard petitioner is directed to approach CEA for firming up the requirement of SNCR system for the Petitioner's plant and its indicative cost. In either case, , petitioner should not initiate installation of SNCR system or modification of combustion control system, as the case may be without specific recommendations of CEA. The cost of such NO<sub>x</sub> control system and its operating expenses may be allowed based on CEA guidelines and recommendations, if any, and based on prudence check of the details furnished by the Petitioner after installing the equipment on basis of competitive bidding and on incurring the expenditure based on such bidding.



44. Prayers (a) and (b) of the Petitioner are disposed in terms of the above.

**Issue No. 4: Whether additional capital cost and operational cost along with other expenses shall be considered on an actual basis for the Change in Law relief in terms of the provisions of the PPA dated 1.4.2013?**

45. The Petitioner has claimed that installation of FGD system will also result in additional operating expenses and the impact of higher auxiliary consumption and additional operating expenses will have impact on the Tariff. The Petitioner has also prayed to declare that additional capital cost and operational cost along with other expenses be considered on actual basis for relief on account of Change in Law. The Petitioner has submitted that it ought to be compensated for the increase in both the capital expenditure as well as the operating expenditure since the additional expenditure under both the categories is being incurred as a result of the 2015 Notification by MoEF&CC. Further, there will also be an impact on the operational parameters such as the Auxiliary Power Consumption and the plant of the Petitioner would remain shut down during the period of installation and commissioning of the above equipment.

46. CEA's report dated 15.4.2019 with regard to additional Operational expenses is extracted as under:

*“Operating Cost (OPEX) will include Reagent cost, Additional water consumption associated with FGD, Manpower cost, Auxiliary Power Consumption, By-product handling and revenue earned through disposal of by product. The OPEX should be kept as low as possible by reducing Auxiliary Power Consumption and producing good quality of saleable by-product.”*

47. The Commission in a similar matter in case of Adani Power Ltd. in order dated 28.3.2018 in petition no 104/MP/2017 has decided that the additional O&M expenses provisionally be considered @2% per annum of the capital cost of FGD system.

Relevant Para is extracted below:





*“49. Pending the prescription of norms by CEA, we allow the O&M expenses provisionally at the rate of 2% per annum of the capital cost of FGD, subject to adjustment in the light of the norms to be prescribed by CEA.”*

48. It is observed from the above that CEA has provided the factors to be considered for additional O&M but has not provided the quantification of the additional O&M in regard to SEIL. Therefore, the claim of the petitioner for allowing O&M expenditure is provisionally allowed @2% of the capital cost of FGD system 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.

49. With regard to operational norms, the Commission is yet to specify the norms in respect of systems to be commissioned for meeting Revised Norms. In absence of notified operational norms, Commission allows increased auxiliary consumption of 1% as recommended by CEA in other similar plants subject to revision based on the norms specified by the Commission, if any. This allowed increase in auxiliary consumption by 1% is allowed for the modification in formulae for Availability, Capacity Charge, Energy Charge and PLF on account of increased auxiliary consumption.

50. Regarding opportunity cost, CEA in its report has recommended that since interconnection of chimneys with absorber may result in loss of generation of the Project, the Petitioner should minimize this interconnection time by taking suitable measure so that the “Opportunity cost” associated with interconnection may have least impact on tariff revision. The Petitioner has also been advised to submit the status of progress of all activities of FGD system installation starting from bidding stage till commissioning of FGD to CEA on monthly basis.



51. However, CEA has not specified number of days for which units would have to be shut down for interconnection of FGD system with the chimney. The Commission is of the view that beneficiaries and the Petitioner shall plan the interconnection of FGD system 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 on actual number of days of shutdown after prudence check to the effect that the Petitioner has tried to synchronize the interconnection of FGD system with annual overhaul and has consulted the beneficiaries (the Respondents) in this respect.

**Issue No. 5: What shall be the norms and mechanism for computing the adjustment in tariff corresponding to the additional investment and increase in the operating costs due to the 2015 Notification so as to restore the petitioner to same economic position as if such Change in Law event has not occurred?**

52. Article 10.2 of the PPA reads as follows in the instant case:

**“10.2 Application and Principles for computing impact of Change in Law**

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

**10.3 Relief for Change in Law**

**10.3.1 During Construction Period, in case the Seller is not a Trading Licensee**

*As a result of any Change in Law, the impact of increase/decrease of Capital Cost of the Power Station in the Tariff shall be governed by the formula given below:*

*For every cumulative increase/ decrease of each Rupees one point two five (1.25) lakh per MW of Contracted Capacity in the Capital Cost during the Construction Period, the increase/ decrease in Non Escalable Capacity Charges shall be an amount equal to zero point two six seven (0.267%) of the Non Escalable Capacity Charges. In case of Dispute, Article 14 shall apply.*

*It is clarified that the abovementioned compensation shall be payable to either Party, only with effect from the date on which the total increase/ decrease exceeds amount of Rs one point two five (1.25) lakhs in per MW Capital Cost, in relation to the Installed Capacity.*

**10.3.2 During Operating Period**

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



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

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

53. It is observed that clause 10.3.1 of the PPA provides for compensation methodology to be applied to the non-Escalable capacity charges if a Change in Law event results in increase in capital cost during the construction period. However, for the Change in Law events which occur during the operation period e.g. the instant change in law event requiring installation of FGD system at the project of the petitioner, clause 10.3.2, 10.3.3 & 10.3.4 of the PPA has left it to the Commission to arrive at the compensation for any increase/ decrease in revenues or cost. Also as per Clause 10.2 of the PPA, “the purpose of compensating the Party affected by such Change in Law, is to restore through Monthly Tariff Payments, to the extent contemplated in this Article 10, the affected Party to the same economic position as if such Change in Law has not occurred”. Thus, the Petitioner is required to be restituted to the same economic position as if the Change in Law event had not occurred.

54. We note that few other similar petitions have been filed by other generating companies in respect of their generating stations wherein tariff has been determined through the tariff based competitive bidding route under Section 63 of the Act. PPAs in their case also contain similar provisions as clause 10.3.2 of the instant Petition i.e. there is no explicit provision with regard to methodology for compensation for Change in Law events which occur during the operation period. In their case too, the PPAs have left it for the Commission to decide at the compensation for any increase/



decrease in revenues or cost on account of change in law during the operation period. Since the FGD system is required to be installed by all thermal generating stations as per the 2015 Notification, several more such Petitions are likely to be filed by generating companies for determination of compensation on account of change in law during operation period. Therefore, it would be appropriate to adopt a uniform compensation mechanism in respect of all such generating stations.

55. Accordingly, the Commission vide order dated 23.4.2020 in Petition No. 446/MP/2019, has directed the staff of the Commission to float a staff paper at the earliest on the issue of compensation mechanism and tariff implications on account of the 2015 Notification in case of those thermal power plants where the PPA does not have explicit provision for compensation mechanism during the operation period and the PPA requires the Commission to devise such mechanism, inviting comments from all the stakeholders.

56. Petition No. 209/MP/2019 is disposed of in terms of the above.

**Sd/-  
(I.S. Jha)  
Member**

**Sd/-  
(P. K. Pujari)  
Chairperson**

