



**Petition No. 1652 of 2020**

**BEFORE**

**THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION**

**LUCKNOW**

**Date of Order: 24.01.2021**

**PRESENT:**

Hon'ble Shri Raj Pratap Singh, Chairman

Hon'ble Shri Vinod Kumar Srivastava, Member (Law)

**IN THE MATTER OF**

Upon remand from Hon'ble APTEL for electricity in terms of judgment dt.13.11.20 passed in Appeal No. 101 of 2020, seeking in-principle approval of the additional expenditure to be incurred by Lalitpur Power Generation Company Limited on account of installation of Flue Gas Desulfurization system in compliance of Ministry of Environment, Forest and Climate Change Notification dated 07.12.2015.

Lalitpur Power Generation Company Ltd.,  
TC-13, Vibhuti Khand, Gomtinagar, Lucknow.

..... **Petitioner**

U.P. Power Corporation Limited,  
(Through Managing Director)  
Shakti Bhawan, 14- Ashok Marg, Lucknow.

.....**Respondent**

The following were present:

1. Shri Amit Kaptur, Advocate, LPGCL
2. Shri Akshat Jain, Advocate, LPGCL
3. Shri Sanjiv Kumar Singh, LPGCL
4. Shri. Amit Mittal, LPGCL





5. Shri Utkarsh Singh, Advocate, LPGCL
6. Shri Upendra Prasad, Advocate, LPGCL
7. Shri.Hemant Sahai, Advocate, UPPCL
8. Ms. Puja Priyadarshini, Advocate, UPPCL
9. Shri Nived Veerapaneni, Advocate, UPPCL
- 10.Shri J.P.S Gangwar, CE(PPA), UPPCL

**ORDER**

**(Date of Hearing 05.01.2020)**

1. The Petitioner, Lalitpur Power Generation Co. Ltd. had filed Petition No. 1468/2019 on 21.05.2019 under section 86 of the Electricity Act, 2003 read with regulation 6(5)(b) and 22(2)(ii) of the UPERC (Terms and conditions of Tariff) Regulations 2014 to seek regulatory certainty qua the treatment of such costs and in-principle approval and seek approval of operation & maintenance cost of FGD and other associated System with following Prayers:
  - a. Allow in principle approval for capitalization of actual capital cost incurred as per books of accounts based on CEA recommendation/report as per applicable Tariff Regulations towards installation of the Emission Control System and other associated facilities for the project.
  - b. Allow incremental auxiliary consumption based on actuals or as per norms to be approved by this Hon'ble Commission for computation of tariff post commissioning of the Emission Control System and other associated facilities at Lalitpur.
  - c. Allow incremental operation & maintenance cost based on CEA report for installation of Emission Control System and other associated facilities.



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- d. Allow shutdown period required for installation and commissioning of the Emission Control System at the Projects as Deemed Availability for payment of Capacity charges.
  - e. Allow increased expenditure on water cost required for operation of the Emission Control System and other associated facilities at actuals.
  - f. Allow Procurement cost of Limestone for operation of Emission Control System at actuals.
  - g. Allow Consumption cost of various reagents like Limestone for operation of Emission Control System at actuals.
  - h. Allow dumping area cost and additional cost associated with continuous dumper transportation for gypsum disposal.
  - i. Allow to approach to UPERC for remaining Emission Control System which is not being implemented presently, but may be required in future based on actual assessment to comply revised environmental Norm.
2. The Regulation 6(5)(b) and 22(2)(ii) of the UPERC (Terms and conditions of Tariff) Regulations 2014 are reproduced below:

6. Truing up of Capital Expenditure and Tariff:

*(5) The Commission shall carry out truing up of tariff of generating stations based on the performance of following uncontrollable parameters:*

- (a) *Force Majeure.*
  - (b) *Change in Law; and*
  - (c) *Primary Fuel Cost*
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## 22. Additional capitalization

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2. Subject to the provisions of clause (3) of this regulation, the capital expenditure of the following nature for new or existing projects actually incurred after the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (ii) On account of change in law;

....."

3. The Commission, discharging its statutory functions under Section 86(1) and 86(3) of the Act and being bound by its own Regulations framed under Section 181 of the Act, passed the following order dated 07.02.2020:

- (a) Based on the perusal of Regulation 20(2) of the UPERC Generation Tariff Regulations 2019, it is amply clear that the additional capital expenditure to be incurred by a generator is subject to approval by this Hon'ble Commission in terms of its Prudence but only after it has been actually incurred by the Petitioner. When the UPERC Generation Tariff Regulations 2019 permit the Petitioner to seek approval of additional capital expenditure for a Change in law event once it has been incurred, the Petitioner cannot be permitted to claim the same in any other manner. Therefore, the Petitioner needs to make its claim in the manner as provided under the UPERC Generation Tariff Regulations 2019 and in-principle approval for additional capitalization is not permitted in terms of the UPERC Generation Tariff Regulations 2019.



- (b) *The Environment (Protection) Rules, 1986 have been notified by the Central Government in exercise of the power vested under sections 6 and 25 of the Environment Protection Act, 1986. Rule 3 of the Environment (Protection) Rules provides Standards for emissions or discharge of environmental pollutants. The said Rules have been amended vide notification dated 7.12.2015.*

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*Therefore, extent of applicability of "Change in law" to every Thermal Power Plant would be governed by its Pre-existing obligation, conditions, standards, Norms, applicable Regulations and PPA.*

- (c) *The Commission is of the view that the PPA nowhere stipulates that the Petitioner has to approach the Hon'ble Commission for seeking a prior declaration of Change in Law event as defined under the PPA. Since, the PPA does not contemplate any such prior declaration of Change in Law, the same cannot be granted to the Petitioner. Further, it is the Petitioner's obligation to comply with prevalent laws and ensure that all the consent and approvals required for the Project are obtained by it.*

4. The Petitioner preferred an appeal, being Appeal No. 101 of 2020 before the Hon'ble Appellate Tribunal for Electricity against the Commission's order dated 07.02.2020. The Hon'ble Appellate Tribunal for Electricity vide its order dated 13.11.2020 passed the following order:

**Conclusion:**

*182. In view of the above, we are of the considered opinion that the impugned order dated 07.02.2020 is bad in law and is therefore set aside.*



183. MOEFCC Notification dated 07.12.2015 is a change in law and the in-principle approval for additional capitalization on account of change in law, as sought by the Appellant, can be granted in terms of the Central Electricity Regulatory Commission (Terms and Appeal No. 101 of 2020 Page 117 of 117 Conditions of Tariff) Regulation, 2019 and the recommendations of CEA, as given in its report submitted to the state commission. The tariff impact of the additional capital expenditure incurred on account of change in law shall be claimed by the Appellant as per applicable Tariff Regulations.

184. We remit this matter back to the UPERC and direct them to consider the matter afresh in view of this Judgment and pass appropriate orders in accordance with law. Given the rigid time frame for installation of FGD we direct the State Commission to take up the proceedings on fast-track mode and pass the orders within four weeks. We direct the Appellant to approach the State Commission within two weeks."

**Petitioner's submissions in the Petition:**

5. The Petitioner filed the present Petition on 26.11.2020 under Section 86 of the Electricity Act, 2003 read with Regulation 57 of the UPERC (Conduct of Business) Regulations, 2019 and in terms of the directions issued by the Hon'ble Appellate Tribunal for Electricity by Judgment dated 13.11.2020 passed in Appeal No. 101 of 2020 titled '**Lalitpur Power Generation Company Limited vs. Uttar Pradesh Electricity Regulatory Commission & Anr**' seeking in-principle approval of the expenditure to be incurred by LPGCL on account of installation of Flue Gas Desulfurization ("FGD") system. The Petitioner has prayed as follows:

- (a) Allow the present Petition and pass consequential orders as directed in the Judgment dated 13.11.2020 passed by the Hon'ble Tribunal in Appeal No. 101 of 2020;



(b) Grant In-principle approval of the additional capital and operational expenditure to be incurred by LPGCL on account of installation of FGD system; and

(c) Pass such further order(s) as this Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

6. The Petitioner has placed on record the Environment Impact Assessment Report for LPGCL's Project based on the Terms of Reference and conditions stipulated by MoEF vide letter dated 12.03.2010. Further, Petitioner has submitted that on 31.03.2011, MoEF accorded Environmental Clearance to the LPGCL for the Project. The EC dated 31.03.2011 was amended on 20.05.2014 and 30.05.2016 to incorporate changes with respect to change in source of coal from imported to domestic. The EC, *inter-alia*, contains the following clauses: -

*A. Specific Conditions*

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*(xiv) Provision for installation of FGD shall be provided for future use.*

*(xv) The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.*

*(xvi) Stack of 275 m height shall be installed and provided with continuous online monitoring equipment for SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> & PM<sub>10</sub>. Exit velocity of flue gases shall not be less than 22m/sec. Mercury emissions from stack may also monitored on periodic basis.*

*(xvii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>*

*(xviii) Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and*



ash handling points, transfer areas and other vulnerable dusty areas shall be provided.....

*B. General Conditions.....*

*(vii) Regular monitoring of ambient air ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> & PM<sub>10</sub> and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of this ministry. The data shall also be put on the website of the company.*

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

7. The Petitioner has placed on record Uttar Pradesh Pollution Control Board's Consent to Establish dated 11.04.2011 and Consent to Operate dated 19.06.2015, 21.01.2016 and 18.07.2016 under Air (Pollution prevention and control) Act 1981 and Water (Pollution prevention and control) Act 1974. The relevant extracts of Consent to Operate are as under: -

*2. The quantities emitted by various Chimneys in the atmosphere confirm to the Board standards*

<i>(i)</i>	<i>Suspended Particulate Matter (SPM)</i>	<i>mg/Nm<sup>3</sup></i>
<i>(ii)</i>	<i>Metal dust (Iron, Zink, Copper etc.)</i>	<i>-</i>
<i>(iii)</i>	<i>Hydrogen, sulfur trioxide sulfide mist)</i>	<i>-</i>
<i>(iv)</i>	<i>Sulfur dioxide</i>	<i>(PCM)</i>

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- (v) Carbon Monoxide -
- (vi) Hydrocarbon -
- (vii) Ammonia -
- (viii) Fluorine -
- (ix) Mercaptan -

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8. All arrangements should be made to monitor emissions from the stack of the unit within one month of the date of issue of consent order.

8. The Consent to Operate for the LPGCL's Project did not specify any emission limits in respect of SO<sub>2</sub> and as such, it is only after the MoEFCC Notification dated 07.12.2015 that the said emission limits came into existence. LPGCL's Project is already in compliance of emission level of PM and NO<sub>x</sub>, hence CPCB directions qua installation of ESP and low NO<sub>x</sub> burners is not applicable in the present case. LPGCL is only mandated to comply with emission level of SO<sub>2</sub> by installing FGD system.

9. On 10.04.2018, CEA wrote to various TPPs regarding adherence to Environmental norms as per Environment (Protection) Amendment Rules 2015 for Thermal Power Stations. The relevant extracts are: -

*"...In light of the above and also in order to suggest Power Producers an appropriate technology and related cost implications, IPPs are requested to approach concerned regulators and submit a detailed feasibility report consisting of following*

- I. Brief details of the plant
- II. Present Emissions and water usage of the plant
- III. Comparison of available technologies for reduction of emission levels and selection of technology, reasons thereof
- IV. Proposed scheme and impact on existing plant including study on reagent and by-product where so necessary



- V. *Implementation plan along with schedule*
- VI. *Cost estimates including Capex, Opex etc.*
- VII. *Impact on Tariff*
- VIII. *Layout and flow diagrams of the proposed system*

*The phasing plan for implementation of FGD system is strict and the power producers across the country is expected to meet the specified timeline. It is requested to submit the detail feasibility report of concern plants. This would enable IPPs to approach respective regulatory commission for further action.*

- 10.** On 30.05.2018, MoP in exercise of powers conferred under Section 107 of the Electricity Act issued directions to Ld. Central Commission to declare the MoEFCC Notification dated 07.12.2015 as a "Change in Law" event. Ld. Central Commission was, *inter-alia*, directed to allow the additional capital expenditure due to installation of various Emission Control Systems/FGD and its operational cost as pass through in tariff. The relevant extracts are:

- 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 environmental norms, the Central Government has decided that –*

- 5.1 *The MoEFCC Notification requiring compliance of Environment (Protection) Amendment Rules, 2015 dated 7<sup>th</sup> 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 7<sup>th</sup> December 2015; or*

*\**

*22*



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....*

**11.** The Petitioner has placed copy of Indian Banking Association letter dated 08.08.2018 to Association of Power Producers ("**APP**") and highlighted their inability to fund Power sector for installation of FGD/emission control equipment. In view thereof, APP requested MoP through various communications for: -

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- (i) Provision of payment security mechanism for IPPs as suggested by High Level Empowered Committee ("HLEC")
  - (ii) Separate window for financing of emission control equipment.
  - (iii) Approval of provisional tariff by Regulatory Commissions.

- 12.** On 21.02.2019, CEA wrote to LPGCL and issued its recommendations *qua* suitable technology and indicative base cost for installation of FGD system in its Project to comply with MoEFCC Notification. On 11.09.2019, this Hon'ble Commission notified the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2019.
- 13.** On 26.12.2019, LPGCL invited International Competitive Bid for procurement and installation of Wet Limestone based FGD system in its Project with scheduled Bid submission date as 28.02.2020. On 06.01.2020 and 24.01.2020, LPGCL wrote to UPPCL informing about the initiation of competitive bidding process for Design, Procurement, Erection and Commissioning of FGD system. LPGCL also requested UPPCL to participate in the tendering process and appoint its representative. On 13.02.2020, LPGCL wrote to UPPCL and, *inter-alia*, requested UPPCL to participate in the tendering process for awarding the contract for FGD and accordingly nominate its representative to oversee the same. On 17.02.2020, UPPCL wrote to LPGCL and, *inter-alia*, nominated Mr. Anand Shukla, Superintending Engineer, UPPCL as representative for monitoring the process of tendering and awarding the contract for FGD. On 18.02.2020, pre-bid meeting for tendering and awarding the contract for FGD was held wherein representatives of both LPGCL and UPPCL were present. The Bids were finally opened on 15.07.2020 in the presence of UPPCL representative through video conference. Despite 11 bidders having purchased Bid documents, only single bid was received.



Accordingly, Petitioner decided to not proceed with opening of the bid as single bid would not reveal competitive price.

**14.** On 17.03.2020, LPGCL issued a Change in Law Notice to UPPCL and UP Discoms (on a without prejudice basis) under Article 13.3.1 of the PPA qua the mandate to install FGD system pursuant to MoEFCC Notification being an event of Change in Law.

**15.** The Hon'ble Tribunal by its Judgment dated 13.11.2020 held that MoEFCC Notification dated 07.12.2015 mandating LPGCL to comply with revised emission norms of SO<sub>2</sub> by installing FGD system is an event of Change in Law under Article 13 of the PPA dated 10.12.2010 and UPERC Tariff Regulations. In this regard the Hon'ble Tribunal after analysing the provisions of the PPA dated 10.12.2010, LPGCL's Environmental Clearance dated 31.03.2011 and LPGCL's Environmental Impact Assessment Report held that:

- (a) At the time of issuance of LPGCL's EC i.e., on 31.03.2011 there were no applicable emission norms for SO<sub>2</sub> and NO<sub>x</sub>. Thus, LPGCL had conceptualised its 1980 MW Project according to the applicable emission norms prevailing at that time.
- (b) It is only on 07.12.2015 that the MOEFCC notified new norms for SO<sub>2</sub> and NO<sub>x</sub>. Pursuant to which, CPCB mandated installation of FGD equipment in all power plants (including LPGCL's 1980 MW TPP) to meet the emission limits prescribed by MoEFCC
- (c) Therefore, prior to the Effective Date under LPGCL's PPA i.e., 10.12.2010, there did not exist any regime with respect to FGD installation or any indication whatsoever for earmarking of funds for setting up the FGD system.





(d) In the absence of emission norms, decision regarding selection of appropriate technology and cost thereof was just not possible. Accordingly, LPGCL neither considered the cost of FGD installation in the Tariff Petitions nor has included the same under in-principle capital cost agreed by UPPCL.

(e) This is a Section 62 project wherein the capital cost has been approved by this Commission as well as the tariff of the Project is also determined by this Commission.

**16.** That prior regulatory approval of this Commission for installation of FGD system and recovery of its associated capital and operational cost is necessary in order to obtain/deploy additional funds including debt funds, which will not be sanctioned by the lenders in the absence of regulatory certainty on recovery of such cost.

**17.** CEA in its Report dated 21.02.2019 has indicated the base capital cost for installation of FGD systems in LPGCL's 1980 MW Project to be estimated at Rs. 42 lakhs/MW with an annual recurring operations cost of Rs. 3.25 Lakhs/MW. The cost estimates given by CEA are indicative in nature and comprise the Base Cost of FGD system, which does not include other costs that are inherent in such installations like: -

- (a) Taxes and Duties (including Custom Duty, GST etc.).
- (b) Opportunity cost.
- (c) Pre-operative expenditure including Insurance Cost and Start-up expenses etc.
- (d) Finance Charges.
- (e) Interest During Construction and Incidental Expenditure During Construction.
- (f) Hedging Cost and/or Impact of Foreign Exchange Rate Variation



- (g) Loss in revenue during the Project shut-down period for installation of Emission Control Systems in the Project.

**18.** The basis for allowing such costs including their in-principle approval has been considered and adjudicated by Ld. Central Commission with respect to installation of FGD for various generators including the following, which would assist this Commission to take a well-considered view in the matter: -

- (a) Maithon Power Limited – Order dated 11.11.2019 in Petition No. 152/MP/2019
- (b) Sasan Power Limited – Order dated 23.04.2020 in Petition No. 446/MP/2019
- (c) Coastal Gujarat Power Limited – Order dated 22.06.2020 in Petition No. 168/MP/2019.

This Commission is dutybound to pass the consequential order allowing the reliefs as sought by LPGCL in terms of the Tribunal's Judgment dated 13.11.2020.

### **Record of Proceedings**

**19.** Subsequent to receipt of the Petition on 04.12.2020, the Commission fixed the hearing on 18<sup>th</sup> Dec 2020 vide Notice dated 09.12.2020 to the Petitioner and Respondent. The Commission, in order to fast track the proceedings, allowed five days' time each to UPPCL and LPGCL for filing reply to the Petition and rejoinder respectively and fixed the next date of hearing as 5<sup>th</sup> January 2021. UPPCL filed its reply dated 23.12.2020 and LPGCL has filed its rejoinder dated 28.12.2020. During the hearing on 5<sup>th</sup> Nov 2021, learned counsel of UPPCL has informed that a Civil appeal has been preferred by it before Hon'ble Supreme Court and no order has been passed as on date of hearing. The Commission, after hearing the learned counsels of the Petitioner and Respondent concluded the hearing on 5<sup>th</sup> January 2021 and reserved its order.



**20. UPPCL reply dated 23.12.2020:** The respondent, UPPCL has stated that:

(i) The Hon'ble Appellate Tribunal's Judgment dated 13.11.2020 reveals that this Commission, under the present proceedings, is required to-

- a) Grant in-principle approval for incurring additional capital on account of change in law.
- b) Direct LPGCL to follow the recommendations under the CEA Report dated 21.02.2019.
- c) Direct that the tariff impact of the additional capital expenditure incurred on account of change in law shall be claimed by LPGCL as per UPERC (Terms & Conditions of Generation Tariff) Regulations, 2019.

(ii) the aspect of in-principle approval is to be seen in light of the relevant provisions contained under the CERC Tariff Regulations.

(iii) It is LPGCL's case that basis of allowing such costs on an in-principle basis is established through the orders passed by the Hon'ble CERC from time to time.

(iv) In-principle approval is to be granted solely on the basis of CEA's benchmark cost and, costs such as duties, IDC, IEDC, insurance, etc. will not be claimed by it on an in-principle basis as the same would be included on actuals after finalization of competitive bidding process subject to prudence check by this Commission. Thus, any attempt by LPGCL to seek an in-principle approval for any additional costs is impermissible.



(v) The onus of complying with the timeline specified by CPCB solely vests with LPGCL. The tendering process was commenced by LPGCL only on 26.12.2019 and the said tender was scrapped in July 2020 as it had received a single bid only. Thereafter, re-tendering process has been initiated by LPGCL for the purposes of procurement of FGD. LPGCL before various forums, including the Hon'ble Appellate Tribunal, has taken a stand that its delay in compliance has occasioned due to a mistake of this Commission. LPGCL has itself delayed the tendering process for procurement of FGD.

(vi) While UPPCL attends the tender meetings to which it is invited to by LPGCL, UPPCL's role is limited to being an observer and witnessing the bid opening. It is further clarified that UPPCL has not been involved in preparation of any of the tender documents nor its finalization. In view of the same, UPPCL reserves its rights to submit its comments at the appropriate stage as regards their reasonableness of costs and prudence in the process adopted by LPGCL

**21. LPGCL rejoinder dated 28.12.2020:** The Petitioner, LPGCL has stated that:

- (i) the Hon'ble Tribunal in LPGCL FGD Judgment has held that in-principle approval for FGD cost shall be granted in terms of the CERC (Terms and Conditions of Tariff) Regulation, 2019.
- (ii) In terms of CERC Tariff Regulations 2019:
  - (a) A generating company undertaking any additional capitalization on account of change in law events can file petition for in-principle approval for incurring such expenditure along with underlying assumptions, estimates and justification for such expenditure.



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- (b) The Commission shall 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.
- (iii) the installation of FGD system requires substantial capital and operational expenditure which cannot be met from internal resources and additional funds including debt funds is required from the lenders. However, due to the prevailing stress in the power sector the lenders are reluctant to provide the necessary funding for procurement and installation of FGD system in the absence of regulatory certainty (i.e., without a prior declaration of MoEFCC Notification as an event of Change in Law and in-principle approval of the associated cost by this Hon'ble Commission). In the present case, LPGCL has not been able to secure loan from the lenders/financial institutions due to absence of an in-principle approval of the FGD cost from this Commission. In any case, any costs to be allowed to LPGCL for FGD installation will be subject to prudence check by this Hon'ble Commission at the relevant point in time
- (iv) In any case, any costs to be allowed to LPGCL for FGD installation will be subject to prudence check by this Commission.
- (v) the scope of the present Petition is limited to the directions in the LPGCL FGD Judgment. The issue of extension of timeline for installation of FGD system is sub-judice before the Hon'ble Supreme Court wherein UPPCL is also a party. LPGCL has written various letters to MoEFCC and CPCB dated 09.10.2019, 06.01.2020, 03.03.2020, 14.04.2020 for extension of timelines for installation of FGD system. Further, LPGCL by its letter dated 19.10.2020, has informed CEA regarding the various steps
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taken by LPGCL for procurement and installation of FGD system and accordingly requested for extension of timelines.

- (vi) LPGCL has re-initiated the tendering process for FGD system by publishing a Notice Inviting Tender on 25.11.2020 in National News Papers (i.e., Times of India and The Economics Times all editions) for Design, Procurement, Erection and Commissioning of Wet Limestone based FGD system. Sale of Tender documents was initiated on 01.12.2020 and the same will be sold up to 30.12.2020. As on date, few bidders have already purchased the tender document. The pre-bid conference is scheduled on 28.01.2021 and last date for bid submission is 15.03.2021. The above mentioned information (i.e., reissuance of NIT) has already been communicated to UPPCL by letter dated 25.11.2020. and to CEA by letter dated 03.12.2020.

### **Commission's analysis and decision**

22. During the hearing on 5<sup>th</sup> January, 2021, both the learned counsel have agreed that the present matter of LPGCL is a matter of limited remand with the following judgement and directions:

### **Conclusion:**

182. *In view of the above, we are of the considered opinion that the impugned order dated 07.02.2020 is bad in law and is therefore set aside.*

183. *MOEFCC Notification dated 07.12.2015 is a change in law and the in-principle approval for additional capitalization on account of change in law, as sought by the Appellant, can be granted in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulation, 2019 and the recommendations of CEA, as given in its report submitted to the state commission. The tariff impact of the additional*



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*capital expenditure incurred on account of change in law shall be claimed by the Appellant as per applicable Tariff Regulations.*

*184. We remit this matter back to the UPERC and direct them to consider the matter afresh in view of this Judgment and pass appropriate orders in accordance with law. Given the rigid time frame for installation of FGD we direct the State Commission to take up the proceedings on fast-track mode and pass the orders within four weeks. We direct the Appellant to approach the State Commission within two weeks.*

**23.** The Hon'ble APTEL has held:

- (a) that MOEFCC notification dated 07.12.2015 is a change in law.
- (b) that even if this Hon'ble Commission's Tariff Regulations does not provide for granting in-principle approval of the FGD cost, the same can be granted in terms of General regulatory powers conferred upon this Hon'ble Commission by way of Section 86(1)(b) of the Electricity Act 2003 read with Regulation 41 and 42 of UPERC Generation Tariff Regulation 2019. The Hon'ble Tribunal held that in special circumstances this Hon'ble Commission under its regulatory powers can deal with any matter for which no regulations have been framed. In-principle approval of FGD cost qualifies as a special circumstance necessitating exercise of this power. Regulation 41 and 42 of UPERC Generation Tariff Regulation 2019 are reproduced below:

*41. Nothing in these Regulations shall bar the Commission from adopting, in conformity with the provisions of the Act, a procedure, which is at variance with any of the provisions of this Regulation, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to*



*be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.*

*42. Nothing in these Regulations shall, expressly or impliedly, bar the Commission dealing with any matter or exercising any power under the Act for which no Regulations have been framed, and the Commission may deal with such matters, powers and functions in a matter it deems fit.*

- (c) The Petitioner has submitted that in its case Electrostatic Precipitator (ESP) and low NOx burners are already installed as per MoEF&CC norms.

**24.** The Commission has noted that Petitioner has placed on record the Consent to operate dated 19.06.2015, 21.01.2016 and 18.07.2016 issued by Uttar Pradesh Pollution control board under Air (Pollution prevention and control) Act 1981 and Water (Pollution prevention and control) Act 1974. LPGCL's Project is already in compliance of emission level of PM, stack height and NOx. LPGCL is only mandated to comply with emission level of SO<sub>2</sub> by installing FGD system. **Therefore, the Commission in terms of Hon'ble APTEL specific remand order dated 13.11.2020 declares that MOEFCC notification dated 07.12.2015 read with CTO dated 19.06.2015, 21.01.2016 and 18.07.2016 issued by Uttar Pradesh Pollution control board under Air (Pollution prevention and control) Act 1981 and Water (Pollution prevention and control) Act 1974, is a change of law.**

**25.** The Commission has noted that in terms of Hon'ble APTEL judgement, "in-principle" approval for additional capitalization on account of change in law" **can** be granted to the Petitioner. The learned counsel, Sh. Amit Kapur has submitted that the Commission can use its discretionary power to exercise power under the Electricity Act, 2003 for granting "in-principle



approval". The Counsel has further submitted that "in principle approval" is required to arrange requisite funds from the lenders.

26. Therefore, the Commission, in view the IBA letter dated 08.08.2018, placed on record and Hon'ble APTEL specific remand directions as per order dated 13.11.2020 proceeds to accord in-principle approval for FGD installation to the Petitioner.

27. The CEA recommendations vide its report dated 21.02.2019 are reproduced below:

#### **Chapter 9: Cost Estimation**

*An indicative cost estimation is done by CEA in order to facilitate LPGCL determine the price for installation of FGD on the major head of CAPEX and OPEX. The cost estimation given is indicative in nature, discovered through taking base as already awarded FGDs through open competitive bidding and does not relate to actual cost estimation. This should be used only as a guiding factor. The indicative cost estimation is given in the following paragraphs:*

#### **Capex**

1. *Estimated /Indicative CAPEX of FGD with existing chimney lining considering limestone as reagent.*

<b>S.no.</b>	<b>Particulars</b>	<b>Basic Value (Rs.Cr/MW)</b>
1	Main equipment cost	0.204
2	Cost of spares	0.015
3	Freight, insurance and transportation	0.007
4	Civil and steel works	0.111

4

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5	Installation services	0.033
6	Opportunity cost	0.050*
Total capex		0.42**

\*Opportunity cost is dependent upon shutdown requirement of interconnection

\*\* The above indicative CAPEX cost is "Base cost" only and does not include Taxes & duties and other financial miscellaneous.

2. Estimated /Indicative CAPEX of FGD with existing chimney lining considering ammonia as reagent.

The CAPEX for ammonia based FGD technology is typically 10-15% less considering the fact that following component are generally not required while comparing with lime based FGD:

- Facilities like crushers are not required.
- By-product handling storage facility of less capacity as Ammonium sulphate is in high demand and readily saleable.
- Waste- water treatment (ZLD) plant not required.

3. Estimated (indicative) OPEX of FGD systems with existing chimney lining considering limestone as reagent (based on data provided by LPGCL)

**Opex**

S.no.	Description	Only for FGD implementation on 3X660 MW (Cr. INR)	Per MW/year cost (INR)	Remarks
1	Annual reagent cost @22.5 TPH, 1300 INR/Ton	21.77	109974	Lime stone purity>90% PLF-85%
2	Annual clarified water	1.37	6918	PLF-85%





	consumption @438TPH,4.20 INR/Ton			
3	Annual cost of APC-@1% of installed capacity, 2.48 INR/unit	36.56	184660	PLF-85%
4	Annual fixed O&M cost	14.65	74000	2% of total FGD capex
5	Annual by- product handling cost @ 150 INR/MT	4.27	21576	
6	Less annual by product sale @ 500 INR per MT	-14.23	-71881	
	Annual OPEX for 3X660 MW unit	64.39 Cr. INR		
	Annual opex per MW			3.25 Lakh# INR

# The above indicative CAPEX cost is "Base cost" only and does not include Taxes & duties and other financial miscellaneous.

#### 4. Estimated OPEX for Ammonia based FGD with chimney lining

S.no.	Description	Only for FGD implementation on 3X660 MW (Cr. INR)	Per MW/year cost (INR)	Remarks
1	Annual reagent cost @5.5 TPH, 33000 INR/Ton	136.5	689375	Lime stone purity>90% PLF-85%
2	Annual clarified	10.46	52858	PLF-85%



	water consumption @2008 TPH,7 INR/Ton			
3	Annual cost of APC-0.80% of installed capacity, 2.48 INR/unit	29.25	147728	PLF-85%
4	Annual fixed O&M cost	12.27	62000	2% of total FGD capex
5	Less -annual by product sale @ 12000 INR per MT	-188.44	-951734	
6	Annual OPEX for 3X660 MW unit	.04 Cr.		
	Annual opex per MW			202# INR

# The above indicative CAPEX cost is "Base cost" only and does not include Taxes & duties and other financial miscellaneous.

## Chapter 10: Conclusion

### Cost

#### CAPEX:

The cost of retrofitting FGD for the plant should be discovered through open competitive bidding in consultation with representatives of UPPCL for which UPPCL has been informed vide letter ref:44/FGD/UMPP/CEA/2018-18 DTD:03.01.2019. The indicative cost for limestone based FGD works out to Rs.0.42CR./MW (Capex only).



*The above indicative cost is "Base Cost" only and does not include, Taxes-Duties & other financial miscellaneous.*

**OPEX:**

*Indicative operating cost (OPEX) will include reagent cost, additional water consumption associated with FGD, manpower cost, APC, by product handling and revenue earned through disposal of by product shall be calculated after detailed engineering and life cycle cost benefit analysis however indicative OPEX does not include Taxes-Duties & other financial miscellaneous costs.*

*Also the regulator may regulate the different aspects of OPEX (as per actual) at appropriate time when the FGD starts operating.*

**Opportunity Cost:**

*Since interconnection of newly lined chimneys or new wet stack with absorber may result in loss of generation of the plant, hence LPGCL is advised to minimise the interconnection time by taking suitable measure so that the "opportunity Cost" associated with interconnection may have least impact on capex and eventually on tariff revision.*

- 28.** Whereas CEA has recommended either wet limestone based or ammonia based FGD system, the Petitioner during the hearing on 5<sup>th</sup> January has submitted that fresh bidding process has been initiated on 25.11.2020 for FGD installation system with wet Limestone based FGD system. **Therefore, Commission, in terms of Hon'ble APTEL specific remand order dated 13.11.2020 holds that the indicative CAPEX and OPEX for wet limestone based FGD system along with other CEA recommendations shall be applicable to the Petitioner.**

- 29.** The Commission has gone through the CERC Tariff Regulations, 2019:



Regulation 11 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulation 2019: -

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 59 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.

**30. The Regulation 11 of CERC (Terms and conditions of Tariff) Regulations 2019 provides for in principle approval of additional capitalization on account of change in law under specific circumstances if the estimated expenditure exceeds 10% of the admitted capital cost of the project or Rs.100 Crore, whichever is lower. The generating company has to give notice to beneficiaries.**

**31.** It is noted that Petitioner has issued a Change in Law Notice on 17.03.2020 to UPPCL and UP Discoms under Article 13.3.1 of the PPA to install FGD system pursuant to MoEFCC Notification being an event of Change in Law. However, the cost estimate has not been placed on record as the Petitioner is yet to carry out tendering process.

**32.** LPGCL's Project is a Section 62 project wherein provisional capital cost has been approved by this Commission as well as provisional tariff of the Project is also determined by this Commission.

**33.** The Commission has also gone through the CERC order as placed on record by the Petitioner vide rejoinder dated 28.12.2020:

**CERC order dated 11.11.2019 in 152\_MP\_2019 :**

**18.**

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"The petitioner has already informed the beneficiaries about the estimated expenditure which exceeds the limit of Rs.100 crore specified under the Regulation. As such, the proposed expenditure on FGD is squarely covered within the Regulation, 11 of the 2019, Tariff Regulations. Accordingly, it is held that proposed expenditure qualifies for the In-principle approval, subject to further scrutiny of the proposed expenditure."

**28.**

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

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

**34. CERC has granted "in-principle" approval for the proposed expenditure along with break-up of capital expenditure for the Wet Limestone based FGD system for MPL generating station**



**estimated on the basis of bidding results compared to CEA recommended cost.** Also CERC vide order dated 23.04.2020 in Petition No. 446 /MP/2019 has held that:

*"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."*

- 35.** CEA in its Report dated 21.02.2019 has indicated the base capital cost for installation of FGD systems in LPGCL's 1980 MW Project to be estimated at Rs. 42 lakhs/MW with an annual recurring operations cost of Rs. 3.25 Lakhs/MW. The cost estimates given by CEA are indicative in nature and comprise the Base Cost of FGD system and does not include other costs
- 36.** Since the cost estimate based on the international competitive bidding are not yet known, **the Commission, in terms of Hon'ble APTEL specific remand direction as per order dated 13.11.2020 and CERC Tariff Regulation 2019 accords in principle approval for incurring additional capital and operational expenditure as per CEA recommendation report dated 21.02.2019 subject to prudence check and meeting MOEFCC emission norms issued vide notification dated 07.12.2015 by the petitioner before true-up under UPREC Tariff Regulations.**
- 37.** Commission is 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, "in principle" approval shall not preclude the**



Petitioner to arrive at a cost more economical than the indicative cost of CEA. The Commission, while approving costs of installation of FGD system, would 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.

38. Regarding opportunity cost, CEA while recommending that interconnection of newly lined chimneys or new wet stack with absorber may result in loss of generation of the plant, advised LPGCL to minimise the interconnection time by taking suitable measure so that the "opportunity Cost" associated with interconnection may have least impact on capex and eventually on tariff revision.

Therefore, Commission is of the view that opportunity cost is a function of time taken for installation of FGD system under terms and condition of the tender invited by LPGCL. The beneficiaries and the petitioner shall keep above aspect in mind and shall plan the interconnection of FGD with main plant by synchronizing it with annual overhaul. Therefore, the Commission is not considering the opportunity cost at this stage. However, the same would be considered during truing up after prudence check to the effect that petitioner has tried to synchronize the interconnection of FGD with annual overhaul and has consulted the beneficiaries in this respect.

#### **Commission's View**

39. The Commission, in terms of the remand directions issued by the Hon'ble Appellate Tribunal for Electricity in its order dated 13.11.2020 passed in Appeal No. 101 of 2020, decides the matter as per following:



- 
- (a) The MOEFCC notification dated 07.12.2015 read with CTO dated 19.06.2015, 21.01.2016 and 18.07.2016 issued by Uttar Pradesh Pollution control board under Air (Pollution prevention and control) Act 1981 and Water (Pollution prevention and control) Act 1974, is a change of law.
- (b) Commission holds that the indicative CAPEX and OPEX for wet limestone based FGD system along with other recommendations of CEA shall be applicable to the Petitioner.
- (c) In light of Hon'ble APTEL specific remand order dated 13.11.2020 regarding applicability of Regulation 11 of CERC (Terms and conditions of Generation Tariff ) Regulation, 2019, for this particular matter, the Commission accords in principle approval for incurring additional capital and operational expenditure as per CEA recommendation report dated 21.02.2019 subject to prudence check and meeting MOEFCC emission norms issued vide notification dated 07.12.2015 by the petitioner before true-up under UPREC Tariff Regulations.
- (d) Commission is of the view that opportunity cost is a function of time taken for installation of FGD system under terms and condition of the tender invited by LPGCL. Therefore, the Commission is not considering the opportunity cost at this stage. However, the same would
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be considered after meeting MOEFCC emission norms, at the time of truing up after prudence check to the effect that petitioner has tried to synchronize the interconnection of FGD with annual overhaul and has consulted the beneficiaries in this respect.

The Petition is disposed of in terms of above.

(Vinod Kumar Srivastava)  
Member

(Raj Pratap Singh)  
Chairman

Place: Lucknow

Dated: 20.01.2021

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