

**From:**

B. Raj  
Bhubaneswar

**To**

**The Secretary,  
CERC  
New Delhi**

**Sub:** Suggestions on the “Staff Paper on Mechanism for Compensation for Change in Law on Revised Emission Norms

Dear Sir,

A public notice vide No. EN-(01)/8/2020-CERC dated 5<sup>th</sup> September’ 2020 was published soliciting comments on the subject staff paper. In this regard, I humbly state that, I am a stakeholder in the capacity of a consumer of electricity and a citizen of India, and I am submitting my suggestions on the subject staff paper.

- I. The basic principle of compensating the generating stations for the event of change of law is “law of restitution” i.e. restoration of some specific thing to its rightful status” and that the parties affected by ‘Change in Law’ should be restored to the same economic position as if the ‘Change in Law’ had not occurred. Accordingly, the affected party “is eligible for Carrying Cost arising out of approval of the Change in Law events from the effective date of Change in Law”.
- II. The compensation would be based on the following impacts: A) Impact due to additional capital expenditure; B) Impact due to additional Operation & Maintenance expenses and additional Interest on Working Capital; C) Impact due to consumption of reagent; and D) Impact due to additional auxiliary energy consumption
- III. Impact due to 2B, 2C and 2D (as above) are operational in nature and can be decided as per normative operating practices as allowed by Commission from time to time or as per actuals whichever is lower.
- IV. But clarity is required on impact due to 2A i.e. impact due to additional capital expenditure.
  - a. While most of the PPAs are of 25 years period or less, and u/s 62 of Electricity Act and applicable regulations, tariff is determined by the Commission allowing charge of depreciation for 25 years of useful life for a thermal generating station.
  - b. Under Section 63 of the Electricity Act, 2003 depreciation is claimed as per provisions of the Companies Act, 2013, wherein the useful life of thermal generating station or asset is 40 years.

- c. For thermal power plants already in operation some of the useful life has already been passed and would be less than the 25/40 years depending upon the section under which the tariff is determined.
  - d. The ECS (FGD and NO<sub>x</sub>) is assumed to be having a useful life of 25 years after putting in operation.
- V. So, for all operating plants implementing the FGD/NO<sub>x</sub>, there exist a mismatch of useful life of the thermal power plant and the ECS. And, hence the existing PPAs.
- VI. In the Staff paper commission has suggested to formulate a **generic** mechanism of compensation on account of installation of ECS only during the operation period to restore the affected parties to the same economic position. The commission has proposed the following with respect to useful life of generating stations leading to charge on additional capex incurred during operation period
  - a. The useful life of the ECS is considered as 25 years in line with the other major equipment of generating plant.
  - b. While considering the useful life of ECS as 25 years, it has been assumed that the useful life of the generating station would be subsequently extended, after expiry of 25 years of operation of a thermal power plant.
  - c. There can be no obligations on the existing procurers to procure power beyond the contracted period and contracted capacity as per the existing PPA.

This necessarily implies that the charge on additional capex to the exiting procurers would be on pro rata basis limited only to the balance period of PPA, assuming complete recovery of additional capex on ECS in 25 years of useful life.

The commission has opined, "There can be no obligations on the existing procurers to procure power beyond the contracted period and contracted capacity as per the PPA. Therefore, recovery of compensation from the existing procurers for the period beyond the contracted period of PPAs is not justified, as the same would amount to paying compensation for the services not availed."

- VII. The moot points are:
  - a. Who will pay the additional capacity charge beyond the existing PPAs, if the PPAs are not extended by current procurer?
  - b. What are the chances of getting a new procurer after the expiry of current PPA? Currently, thermal generation is already under pressure due to constantly falling tariff of renewable energy. If then tariffs would be fair enough to compensate for the balance capex and additional investment required for extension of useful life of thermal power station?
  - c. How stringent will be the environmental norms in coming days? If then environmental laws will allow to function such old thermal plants? What if the renewable sources with storage capacity would completely make fossil fuel plants redundant in coming future?

d. If the Lender's would be willing to finance the additional investment considering the uncertainties of return, cash flow and debt service capacity of the asset beyond the existing PPA period?

So how justified would be the proposal of additional capex retirement over the useful period of ECS rather than the useful life of the thermal power plant.

But on the other hand, if the entire additional capex on ECS is charged to exiting PPAs it would be pushing up the tariffs to great extent. This will not only burden the exiting consumers but also will make the conventional power less attractive in merit order.

VIII. As per the notification of MOEF&CC dated 7<sup>th</sup> December 2015, the revised norms for thermal power plant is as below:

**NEW REGULATIONS ON EMISSION**

<b>Date of Installation</b>	<b>PM</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Mercury (Hg)</b>
Before 31-12-2003	100 mg/Nm <sup>3</sup>	600 mg/Nm <sup>3</sup> for <500MW 200 mg/Nm <sup>3</sup> for >=500MW	600 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup> for >=500MW
After 01-01-2004 & Upto 31-12-2016	50 mg/Nm <sup>3</sup>	600 mg/Nm <sup>3</sup> for <500MW 200 mg/Nm <sup>3</sup> for >=500MW	300 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>
On or after 01-01-2017	30 mg/Nm <sup>3</sup>	100 mg/Nm <sup>3</sup>	100 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>

Here as per the table power plants (below 500 MW) established before 2016 are allowed to emit SOx/NOx roughly 6 times than the newly established power plants after 2016. Power plants installed before 2003 have already put 17 years or more of service. Considering 25 years of useful life, plants established before 2003 are having less than 8 years of useful life remaining. Now considering that power plants are allowed till 2024 time to comply with the new environmental laws, the balance operating period of these plants would be less than 4 years after 2024. And, if life span of these old plants is extended by infusing additional capital, these will continue to pollute the environment for next 20 years.

As the useful life of existing thermal plants are having a varied lifespan remaining, having a generic approach/mechanism for additional capex is beneficial to all.

**My suggestion on staff paper is as below:**

- I. **Plants installed before 2003** – Consider shutting down these thermal power plants after completion of current useful period of plants without implementing any new ECS. These plants would be having operation for less than 4 years after the allowed

implementation timeline of 2024. The additional pollution emitted by these plants within these 4 (or less) years would be much lesser than the cumulative pollutions that would be added by these plants in next 25 years till the useful life of ECS, if implemented.

- II. **Plants installed after 2003 but before 2008** –These plants are having less than 13 years of useful life; hence they would be working for less than 9 years post 2024. The lifetime emission of these plants needs to be evaluated for remaining useful period with ECS considering extended period of operation and need to be compared with emission of the plant without ECS within the existing useful period of operation. Accordingly, options to be given to project proponents for either choosing to shut down the plant after the completion of existing useful period without ECS or adopting to proposed compensation suggested in Staff Paper.
- III. **Plant installed after 2008** – Can be dealt according to compensation suggested in Staff paper. However, some mechanism needs to be derived for giving comfort to the lenders financing the additional required capital. These can be
  - a. extension of existing PPA to the useful life of ECS, on mutual agreement
  - b. Giving FROR (first right of refusal) to the existing project proponent to enter into fresh power purchase agreement with the procurer after expiry of current PPA.

I will be happy to give further clarification on my suggestions, if required.

I can be reached at [bhaktiraj@gmail.com](mailto:bhaktiraj@gmail.com)

Regards,

Bhakti Raj