

Before the Central Electricity Regulatory Commission

3rd and 4th Floor, Chandralok Building,
36, Janpath, New Delhi-110 001

In the matter of:

Comments and suggestions on CERC Staff Paper on 'Methodology for Computing "Deterrent Charges" for maintaining lower coal stock by coal based thermal generating stations'

Submission of Prayas (Energy Group), Pune, 27th May 2022

Central Electricity Regulatory Commission (CERC or the Commission) issued a staff paper on 13th May 2022, discussing a 'Methodology for Computing "Deterrent Charges" for maintaining lower coal stock by coal based thermal generating stations'. The staff paper proposes this methodology based on the disincentives suggested by the Central Electricity Authority (CEA) on 6th December 2021 while revising the coal stocking norms.

Given the recent and recurring coal crises, mechanisms to ensure sufficient coal stocks at TPPs to mitigate any risks owing to coal shortages are a step in the right direction. Toward ensuring this and offering some clarity on some aspects of the suggested methodology, Prayas (Energy Group) has some suggestions and comments which are listed below:

1. Transparency must be ensured

The suggested methodology in the staff paper is based on CEA's revised coal stocking norms, dated 6th December 2021. This document is not available in the public domain, and is not directly accessible on CEA's, Ministry of Power (MoP)'s or CERC's website. Given that this document forms the basis of the staff paper, lack of accessibility to CEA's revised coal stocking norms seriously hinders effective public participation in the commenting on the efficacy and applicability of the methodology suggested in the staff paper. It is understood that this staff paper has arisen from a directive to the CERC from the MoP under Section 107 of the Electricity Act, 2003. Unfortunately, this directive too is not available on either the CERC or MoP website.

In order to ensure transparency and enable effective public participation, the following must be made publicly accessible:

- CEA's latest coal stocking norms that form the basis of this staff paper, as well as the MoP directive to CERC that has led to the formulation of this methodology should be made available on their respective websites
- comments received from various stakeholders on this staff paper, and CERC's response to these comments, must be made publicly available and hosted on the CERC website
- draft regulations stemming from this staff paper and a statement of reasons, justifying the methodology adopted in the draft regulation must be made publicly available and must be finalised based on public consultations

2. Calculation of deterrent charges based on availability of TPP will not be an effective risk mitigation measure

The proposed methodology to deter the maintenance of lower coal stocks is based on the assumption that reduced coal stocks will directly lead to lower declared availability by the generating stations. However, plant availability is linked to day ahead declared capacity and is subject to revisions, as per Section 6.5 of the Indian Electricity Grid Code. As further iterated in the CERC Tariff Regulations 2019,

"3. (16) 'Declared Capacity' or 'DC' in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any time-block of the day as defined in the Grid Code or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification in these regulations;

3. (47) 'Plant Availability Factor' or '(PAF)' in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during the period expressed as a percentage of the installed capacity in MW less the normative auxiliary energy consumption;" [Emphasis added]

Given this, even TPPs that consistently have coal stocks for lesser days than the CEA norms can potentially declare normative availability over an extended period, such as a month. For example, a plant may maintain only 10 days of coal on every day of a month, and yet be available for the entire month. The suggested mechanism, thus, does not effectively serve to ensure coal stock maintenance at thermal power plants as per the norms. Therefore, it does not mitigate the risk of the plant being unable to deal with sudden supply bottlenecks.

Additionally, while reduction in coal stocks is one driver of reduced availability in a generating station, there are other parameters that impact the plant's availability as well, such as water availability and repair and maintenance activities. It is difficult to establish the extent of availability reduction on account of low coal stocks alone.

For the proposed availability-based methodology to be effective, plants should not be able to declare themselves available if they do not maintain sufficient coal stocks. This is not the case as per the current CERC Tariff Regulations or the Indian Electricity Grid Code. Thus, these regulations will need to be amended to introduce coal stocks at the TPP as a factor in its declaration of availability, if the proposed methodology has to be effective.

3. Issues with time periods for reporting would make calculation complex

The suggested methodology in the staff paper calculates the reduction in capacity charges (i.e., the deterrent charges) on a monthly basis. The capacity charge on which this penalty is applicable is also calculated on a monthly basis, as per clause 42 (2) of CERC's 2019 Tariff Regulations. Additionally, in accordance with CEA's revised stocking norms (dated 6th December 2021), the norms for coal stock in number of days varies by month.

However, some parameters considered in the calculation of the monthly deterrent charges are accounted on a quarterly basis. As an example, in the formula proposed for calculating the reduction in capacity charges for the month for thermal plants designed on domestic coal,

$$= 0.2 \times AFC_{month} \times \left(1 - \frac{PAFM_{Actual}}{PPAFM_{NAPAF}}\right) \times \left(1 - \frac{Average\ coal\ stock\ for\ last\ three\ months\ in\ no.\ of\ days}{Average\ coal\ stock\ for\ last\ three\ months\ in\ no.\ of\ days\ as\ per\ CEA}\right)$$

the annual fixed cost and the actual and normative plant availability factor are considered on a monthly basis, whereas, the average and normative coal stock is considered on a quarterly basis.

To circumvent complexities in calculation, all factors must be considered across a uniform monthly time period.

4. Proposed alternate mechanism: Deterrent charges linked to compliance with coal stocking norms rather than availability

Given the issues raised in sections 2 and 3, we propose an alternate mechanism to compute deterrent charges linked to coal stocking norms rather than availability.

4.1 Addressing the intent of the regulation

As recognised in the staff paper, it is the obligation of the generating company to arrange sufficient fuel for its TPPs as per the norms. However, the actual levels of coal stock at the TPP are also influenced by some factors beyond the generator's control. For instance, coal supply issues at the coal company, or rake availability could also lead to low coal stocks.

The mechanism suggested by the CERC should be aimed at holding the generating company accountable for its role in maintaining coal stocks, such as in instances of insufficient or irregular planning or requisitioning of coal and any lapses in payment for such requisitioning. The generators should not be penalised in instances where maintenance of low coal stock is due to reasons on account of other stakeholders, such as the coal company or transport agency. It is for this reason that the alternate mechanism proposed in section 4.2 uses "coal requisitioned as per final approved coal program" as the metric to measure the coal stock at the generator, for the purposes of computing deterrence penalty.

4.2 Alternate mechanism based on compliance to coal stocking norms

We propose an alternate deterrence mechanism that would penalize plants for not stocking sufficient coal on a monthly basis.

- (i) In case, the average coal stock for the month is in the range of 65% to 85% of the mandatory coal stocks prescribed by the CEA for that month, the reduction in capacity charges for the month =

$$V \times AFC_{month} \times \left(1 - \frac{\text{Average Coal Stock for the month in no.of days}}{\text{Coal Stock for the month in no.of days as per CEA norms}}\right)$$

Where,

V=Multiplier based on type of TPP (0.2 for TPPs designed on domestic coal, 0.5 for TPPs designed on imported coal)

AFC_{month}=Annual Fixed Cost for the month, calculated as per normative annual plant availability factor

Average Coal Stock for the month in number of days = Average coal stock at the TPP based on the quantity of coal requisitioned as per the final approved coal program, as described in the 2017 guidelines on monitoring of coal stocks at coal based TPPs issued by CEA, dated 8th November 2017

- (ii) In case, the average coal stock for the month is less than 65% of the mandatory coal stocks prescribed by the CEA for that month, the reduction in capacity charges for the month =

$$AFC_{month} \times \left(1 - \frac{\text{Average Coal Stock for the month in no.of days}}{\text{Coal Stock for the month in no.of days as per CEA norms}}\right)$$

Where,

AFC_{month} = Annual Fixed Cost for the month, calculated as per normative annual plant availability factor

Average Coal Stock for the month in number of days = Average coal stock at the TPP based on the quantity of coal requisitioned as per the final approved coal program, as described in the 2017 guidelines on monitoring of coal stocks at coal based TPPs issued by CEA, dated 8th November 2017

Provided that the above reduction in capacity charges for the month shall be adjusted in the invoice of the same month.

Provided further that the above reduction in capacity charges shall be affected from the first calendar day of the succeeding month after the notification of these regulations.

4.3 Data availability to ensure effective implementation

Details pertaining to “quantity of coal requisitioned as per the final approved coal program” is critical towards the implementation of the mechanism suggested in section 4.2 or that proposed in the staff paper.

As per the second proviso of clause 40 in the 2019 CERC Tariff Regulations,

“...Provided further that copies of the bills and details of parameters of GCV and price of fuel such as domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel, details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company.”

Despite this proviso, most generators do not publish such information on their websites. CERC should ensure that this proviso is adhered to, and should also mandate publication of additional information required to compute the quantity of coal requisitioned as per the final approved coal program on the generator’s website every month. It is crucial to make such information available to ensure accountability for maintaining coal stocks among stakeholders, such as the generating company, coal company, and coal transport agencies.

5. Similar measures must be introduced for Section 63 and state TPPs

The suggested methodology only pertains to Section 62 TPPs that fall in the ambit of the CERC. Given the national impact of the coal crisis, the need to effectively monitor coal stocks to ensure effective risk mitigation in instances of coal shortages, extends beyond just these TPPs.

Suo motu steps must be taken by the CERC to ensure such monitoring of coal stocks and deterrence to maintaining low coal stocks extends to Section 63 TPPs as well. These should be finalised based on public consultations. Further, State ERC’s must also be encouraged to come out with mechanisms to deter maintenance of low coal stocks in TPPs under their jurisdiction. Forum of Regulators (FOR) may initiate necessary steps in this direction.

6. Suggestions for CERC on broader issues

- The CERC should oversee the prudence of coal imports, if any, undertaken to meet the stated coal stocking norms and avoid the deterrence penalty. Excessive imports to avoid the deterrence penalty could lead to non-prudent expenditure, leading to higher consumer tariffs.
- The CEA coal stocking norms dated 6th December 2021 are based on normative 85% PLF, while the previous norms (dated 8th November 2017) were based on the daily average coal consumption of the last 7 days or 55% PLF whichever was higher. Other than rare episodes such as the recent heat wave, it is unlikely that all plants would require to operate at very high PLFs, given the increasing role of renewable energy. Therefore, CERC may consider using a lower PLF for calculating the number of days of stock.

7. We request the Commission to accept this submission on record and to allow us to make additional submission(s) in this matter, if any. We further request the Commission to allow us to make an oral submission during a public hearing, if one is scheduled.

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