

**CENTRAL ELECTRICITY REGULATORY COMMISSION
(NEW DELHI)**

Explanatory Memorandum for the “Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (First Amendment) Regulations, 2024.

1. Background

1.1 The Central Electricity Regulatory Commission (“the Commission”), exercising power under sub-clause (s) of clause (2) of Section 178 of the Electricity Act, 2003 (“the Act”) read with Section 61 and Section 62 of the Act, has notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 (hereinafter referred to as the “Principal Regulations” or “Tariff Regulations, 2024”). These regulations provide the terms and conditions for tariffs applicable to the Central generating stations, other generating stations where the Commission determines the tariff under Section 62 of the Act, and the inter-State transmission system. The Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (First Amendment) Regulations, 2024, was issued on 2nd August 2024, inviting comments/suggestions/objections of the stakeholders.

1.2 The Commission, while issuing the Tariff Regulations, 2024, largely retained the framework of input price of integrated mine as notified through the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2021, with only minor modification. These regulations were introduced for the first time and implemented in some of the cases for example, in the determination of the input price of Barsingsar Mines and Talabira Mines. The experience gained during the implementation of the abovementioned regulations related to the input price of integrated mine suggest a few modifications to the existing framework. Further, the operational norms for part load operation as

recommended by the Central Electricity Authority have been considered while specifying the norms of the generating stations, but the same were not specified either in the Tariff Regulations, 2024 or the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023. Apart from the above, a few amendments have been identified related to the transmission and hydro-generating stations.

1.3 In this backdrop, the Commission has proposed certain amendments in provisions of the Principal Regulations to strengthen the regulatory framework for the determination of input price of integrated mines and to incorporate the operational norms for part load operation in line with the recommendation of Central Electricity Authority.

2. Overview of the Proposed amendments

2.1 The brief overview of the amendments proposed have been discussed below:-

- a) Introduction of the definition of the “Bank Rate” in line with the term used under the Act to avoid implementation ambiguity (Amendment to Regulations 3, 9, and 10):
- b) Increase in permissible limit of Self Insurance scheme for the transmission system (Amendment to Regulation 36(3)(d));
- c) Amendments proposed with respect to the determination of coal input price, streamlining the framework for adjusting shortfall in overburden, facilitating interim determination of input price, and addressing difficulties in referencing prices of Coal India Ltd.
- d) Modification of Auxiliary consumption for Chandrapur TPS (Regulation 70(E)(b)) and applicability of norms for generating station completing 30 years (Regulation 70(A) & (B));

- e) Framework for Part load compensation for the generating station covered under Section 62 of the Act [Regulation 70(G)];
- f) Aligning the Normative Annual Plant Availability Factor (NAPAF) of the station Karcham Wangtoo in line with similar HEPs considering downstream and upstream projects.

3. Proposed Amendments

3.1 Introduction of the definition of the “Bank Rate (Amendment to Regulations 3, 9, and 10)

3.1.1 Regulations 9 and 10 of the Tariff Regulation 2024, provide for refund tariff or recovery of excess or additional tariff between interim tariff and final tariff. It was specified that the differential amount should be recovered or refunded at the rate of MCLR+100 bps. However, Section 62(6) of the Act mandates that excess tariff be refunded at the “Bank Rate”. While the Act does not explicitly define the “Bank Rate,” Section 47(4) of the Act allows State Commissions to specify it. The term “Bank Rate” was used in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019. Therefore, it is proposed to introduce the term “Bank Rate” in Regulation 3 of the Principal Regulations and make consequential amendments to Regulations 9 and 10 of the Principal Regulations.

3.2 Increase in permissible limit of Self Insurance scheme of the transmission system (Amendment to Regulation 36(3)(d))

3.2.1 Some transmission licensees have adopted self-insurance scheme for their transmission assets. Given the rate of failure of equipment and insurance claims, it

is recognized that the self-insurance scheme is beneficial for both the transmission licensees and consumers, as the premium charged is generally lower than the norms or tariffs typically followed in the insurance industry.

3.2.2 It appears that the self-insurance scheme is in the interest of consumers and should be sustained with some regulatory checks. As per data submitted by Power Grid Corporation of India Ltd., it was noted that the average claims from self-insurance during recent years are higher than the allowable limit of 0.09% of Gross Fixed Assets (for the asset base considered for self-insurance). Therefore, to ensure the sustainability of the scheme, the Commission has proposed to increase the allowable premium to 0.12%, with regulatory oversight on the reserve fund created from the self-insurance scheme.

3.3 Introduction of the Provision for Interim Input Price (Regulation 37)

3.3.1 In the case of an integrated mine, the Commission has allowed the generating station to bill at the Coal India Ltd price for supplying coal during the development phase and until the input price is determined by the Commission. However, there may be a variation between the prices of Coal India Ltd and input prices determined by the Commission on account of various technical parameters such as stripping ratio, location of mine, type of mine such as open cast or underground, etc. The Price of Coal India Ltd. represents the average price of coal after aggregating the expenses and prices of all its mines irrespective of variation in size, technical parameters, etc., whereas the integrated mine represents the price of a specific coal mine. There may be cases where the input price of an integrated mine may be lower or higher than Coal India Ltd.'s price due to technical parameters and geographical location, which the Commission can ascertain. Hence, consideration of the price of Coal India Ltd. for the purpose of interim input price may cause huge interest costs later on. This

needs to be addressed. Once the petition is filed by the generating company in accordance with the Tariff Regulations, 2024, the indicative input price is known to all the stakeholders.

3.3.2 In view of the above, the billing at the price of Coal India Ltd for a similar grade can continue as per existing regulations until the petition is filed. It is proposed that, after filing the petition, the generating company may be allowed to plead for an interim input price in case of significant variation from the price of Coal India Ltd, which the Commission may allow after a prudence check. Billing based on the interim coal price may be allowed to reduce the wide variation in energy charges.

3.4 Recovery of the input price (Regulation 50)

3.4.1 The Commission has considered the premises on which the coal mine was allocated and accordingly linked the energy charge rate based on the input price of coal from integrated mine(s) with the energy charge rate based on the notified price of Coal India Limited for the corresponding grade of coal in a given month. Additionally, the Commission specified the requirement to seek prior consent from the beneficiaries in case of variation in energy charge rate beyond permissible limits.

3.4.2 The notified price of Coal India Limited represents the average price of coal after aggregating the expenses and prices of all its mines, which vary in mine type, stripping ratio, technology deployed, and location, whereas the input price of an integrated mine reflects the price of a single mine. This inherent difference in pricing framework has led to a re-examination of the regulatory framework. Comparing the input price of an integrated coal mine with the prices of the Coal India Limited is not feasible unless there are mines with similar technical parameters and configurations. Furthermore, the comparison with the notified price of coal assumes that the entire quantity of coal from Coal India Limited is available throughout the

year. However, it does not account for dynamic situations where part of the coal is not available at a given time. Since the coal supply from the integrated mine replaces the existing coal arrangement with the generating station, it is felt that a comparison of energy charges with the alternative coal available to the station in a given month is more appropriate and pragmatic.

3.4.3 In view of the above, it is proposed to replace the comparison of the input price with the notified price of Coal India Limited for the commensurate grade of coal in a month, as stated in Regulation 50 of the principal regulations, with a comparison to the price of alternative coal available to the station in a given month.

3.5 Streamlining framework for adjustment of shortfall of overburden. (Regulation 51)

Regulation 51(2) – Formula of Overburden Adjustment (“OB adjustment”)

Mining Charge without OB adjustment

3.5.1 The generating company generally appoints a Mine Developer and Operator for the extraction of coal from the mine. The contracts with the Mine Developer and Operator that the generating company adjusts the mining charge on account of the shortfall of overburden and passing to the consumer in the form of a reduced mining charge. It is observed that where such an arrangement of OB adjustment exists in the contract with the Mine Developer and Operator, the OB adjustment as per the regulation will further reduce the input price. Thus, there will be a double adjustment on account of the shortfall of overburden, which needs to be addressed.

3.5.2 In view of the above, it is proposed that the mining charge for the purpose of OB adjustment as per these regulations shall be a pre-OB adjustment price payable to the Mine Developer and Operator. Further, where such an arrangement of OB

adjustment exists in the contract, treatment of difference in OB adjustment as per the contract and as per the regulation has been proposed.

Separate OB adjustment where Mine Developer and Operator is appointed

3.5.3 It is observed that where the Mine Developer and Operators are appointed, most of the expenses are covered in the mining charge as per the scope of the Mine Developer and Operator. The Operation & Maintenance expenses for the activities carried out departmentally are much less. If the Mine Developer and Operators are not appointed, all expenses related to mining activities (including outsourced activities) are being carried out departmentally and are covered in Operation and Maintenance expenses. OB adjustment is applicable for the cost component associated with mining activities, whereas other common expenses or administrative expenses will remain unaffected.

3.5.4 In view of the above, it is proposed that OB adjustment will be applied to Operation and Maintenance expenses for the departmentally operated mine. The mining charge component in OB adjustment will not be applicable where the Mine Developer and Operators are not appointed. For the cases where the Mine Developer and Operators are appointed, the OB adjustment is proposed to be applied to the mining charge payable without OB adjustment built into their contract. Relevant clauses of Regulation 51 have been accordingly amended.

Factor of OB adjustment on the basis of stripping ratio

3.5.5 It is noted that an inadvertent error had crept in the formula for the factor of overburden adjustment, which is proposed to be corrected. As per existing Regulations, the factor for OB adjustment is as under:-

“[(Actual quantity of coal or lignite extracted during the year x Annual Stripping Ratio as per Mining Plan) - (Actual quantity of overburden removed during the year/ Annual Stripping Ratio as per Mining Plan)]/ (Annual Target Quantity)”

In the above formula, the first quantity, i.e. “Actual quantity of coal or lignite extracted during the year x Annual Stripping Ratio as per Mining Plan,” represents the Overburden in M3 to be removed as per stripping ratio as notified in the mining plan for extracting the actual quantity of coal, whereas the second quantity i.e. ‘Actual quantity of overburden removed during the year/ Annual Stripping Ratio as per Mining Plan’ represents coal quantity in Tonnes which would have been extracted after removal of overburden actually removed considering annual stripping ratio as per Mining Plan. As such, the formulae are inconsistent in terms of Units since Tonnes are being subtracted from the M3. As such, there is a need to correct the formula for the factor of OB adjustment.

3.5.6 The formula has been reviewed and proposed in the Amendment, taking into consideration the following:-

- a) The coal extraction has to be as per the mining plan, and as such, the actual coal extracted is close to the coal to be extracted as per the mining plan. For any slight variation between the actual coal extracted and ATQ, the MDO/Generating company gets penalized as the Input price is in terms of Rs/Tonne of coal extracted, and as such, in the new formula for “OB adjustment factor,”, ATQ has been replaced with Actual coal extracted
- b) The numerator of the formula is a shortfall in OB removal if the Actual Stripping Ratio is less than the Annual Stripping Ratio as per the mining plan, i.e., Actual quantity of coal or lignite extracted during the year x Annual Stripping Ratio as per Mining Plan- Actual quantity of coal or lignite extracted during the year x Actual Stripping Ratio)

- c) The denominator of the formula is OB to be removed against actual coal extracted considering the stripping ratio as per the mining plan, i.e, Actual quantity of coal or lignite extracted during the year x Annual Stripping Ratio as per the Mining Plan
- d) Since the “Actual quantity of coal or lignite extracted during the year” is a common factor in the numerator and denominator, the simplified formula becomes: The factor of adjustment for the shortfall of overburden removal during the year= (Annual Stripping Ratio as per mining plan- Actual Stripping Ratio during the year) / Annual Stripping Ratio as per mining plan.
- e) Further, in consideration of the fact that Mining charges or O&M to be adjusted represent the cost of removing not only OB but also coal, the denominator has been changed to (1+Annual Stripping Ratio as per Mining Plan) so as not to reduce the cost component associated with extraction of coal as the intent of formulae is to adjust the cost of OB removal only.

Treatment of difference of OB adjustment under the contract with the Mine Developer and Operator

3.5.7 Broadly, the OB adjustment worked out as per the contract with the Mine Developer and Operator and as per this regulation should match. However, there may be variations depending on the contracts entered into by the generating company. Accordingly, it is proposed to incorporate the treatment of difference of OB adjustment under the contract with the Mine Developer and Operator and as worked out under the Tariff Regulation, 2024. It has been proposed that if the OB adjustment as per the contract with the Mine Developer and Operator exceeds the OB adjustment as per Regulation 51(4) of the Tariff Regulations, 2024, the OB adjustment shall be treated as NIL.

3.5.8 Apart from the above, some of the typographical errors noticed in the formula of overburden adjustment have been corrected.

Regulations 51(3) – Admissible period for adjustment to a shortfall or excess of overburden

3.5.9 The coal and overburden stipulated in the mine plan is an average estimation basis and may not be available in the same proportion across the mine area. In order to address the issue of variation in coal and overburden, the Commission has allowed the shortfall of overburden to be adjusted with the excess overburden during the subsequent three years. It is felt that the period of three years allowed for adjustment may not be adequate.

3.5.10 One of the options is to increase the existing period of adjustment of shortfall of overburden. However, if this period is more than 5 years, it exceeds the tariff period. Hence, the period of adjustment of shortfall of overburden is proposed to be aligned with the tariff period. However, the excess overburden at the end of the tariff period, on account of the reasons not attributable to the generating company, shall be allowed to be carried forward beyond the end of the tariff period at the time of true up of the input price. A regulatory check is proposed on the generating company mandating assessment of the shortfall or excess overburden at the end of the control period, and accordingly, an obligation is laid down on the generating company to submit the details of the adjustment of overburden at the end of the tariff period for the purpose of truing up.

3.6 Expanding the scope to the guidelines and procedure for third-party sampling issued by the various authorities. (Regulation 55)

3.6.1 The existing regulation recognizes guidelines and procedures of third-party sampling issued by the Ministry of Coal, Government of India. It is noted that the Ministry of Power has also initiated the process of empanelment of third-party

sampling agencies. Accordingly, it is proposed to expand the scope to recognize guidelines and procedures issued by the other authorities of the government of India in addition to the Ministry of Coal.

3.7 Bringing clarity in the applicability of newly added norm for generating station completing 30 years [Regulation 70(A) & (B)]

3.7.1 The norms of generating stations, namely NAPAF and NAPLF, have been relaxed by 2% for those plants completing 30 years of COD during the 2024-29 tariff period. However, the interpretation of existing regulations restricts the plants from completing 30 years as on 31st March 2024. Accordingly, in order to bring clarity in the interpretation and applicability of Regulation 70(A)(b) and Regulation 70(B)(b) of these regulations, the words “or thereafter” shall be added after the words “as on or after 31.3.2024”.

3.8 Auxiliary Energy Consumption of Chandrapur TPS -aligning with other provisions [Regulation 70(E)(b)]

3.8.1 It is observed that the normative O&M for similar units of 250 MW capacity is 9.8% only (considering Ball & Tube Mill and IDCT) in Regulation 70(E)(a). This was pointed out by Generator and recommended by Central Electricity Authority. Accordingly, it is proposed to specify the Auxiliary Energy Consumption of Chandrapur TPS (2x250 MW) as 9.80%.

3.9 Compensation to the generating station for loading below the normative plant availability factor [Regulation 70(G)]

3.9.1 The Commission had specified the norms under the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010, to compensate for adverse implications of the flexible operations through part load operation and reducing real time generation thereof. This part load operation is

necessary to mitigate the challenges caused by the intermittent energy sources. On 19th December 2023, the Central Electricity Authority submitted its recommendations on operational norms for specifying Tariff Regulations 2024 and revised these recommendations on 15th March 2024, which were published on the Commission's website. In this recommendation, the Central Electricity Authority has revised norms for part load operations, which are different from the norms specified in Grid Code, 2010. It is clarified that additional norms of part load operation and operational norms specified for the normative level are interdependent. If the norms of part load operation are higher, the operational norm in Tariff Regulations 2024 will get reduced and vice versa. Thus, the additional norms of part load operation have implications on the norm of the Tariff Regulations, 2024, and are to be made applicable simultaneously with the operational norm in Tariff Regulations, 2024.

3.9.2 The Commission, while specifying the new operational norms of the generating stations in Tariff Regulations 2024, considered the revised norm of part load operations recommended by the Central Electricity Authority. Since the revised norms of part load operation have not been specified in Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023, it is necessary that revised norms for part load operation be specified in the Tariff Regulations, 2024 for the projects covered under Section 62 of the Act.

3.9.3 During the consultation process on the draft Tariff Regulations, 2024, the Commission received numerous comments and suggestions to specify fresh norms and compensation mechanisms for degradation in norms due to part-load operations, in line with recommendations from the Central Electricity Authority. On 11th July 2024, the Statement of Reason to the Tariff Regulations, 2024 was issued by the Commission in which (vide para 39.3), the Commission mentioned specifying a

fresh compensation mechanism based on Central Electricity Authority's recommendations: -

“39.3 The Commission has considered the suggestion(s) of the stakeholders. The Commission observes that in order to negate the financial implications on the generators due to part load operations, the Commission had already specified a compensation mechanism for degradation in norms due to part load operations under sub-clause (6) of Regulation 6.3B of the IEGC Regulations, 2010. The Commission is also in the process of specifying a fresh compensation mechanism based on the CEA's recommendations to compensate for the degradation of norms due to increased part load operations.”

3.9.4 Accordingly, new Regulation 70(G) in the Tariff Regulations, 2024, for compensation for the operation of generating stations below the normative plant availability factor, is proposed to be introduced in the Tariff Regulations 2024. The procedure stipulating the mechanism to work out the compensation due to norms of part load operation proposed under Regulation 70(G) is to be issued by the National Load Despatch Centre separately. The National Load Despatch Centre is requested to initiate the consultation process for the finalization of the procedure based on the proposed Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (First Amendment) Regulations, 2024.

3.10 Normative Annual Plant Availability Factor of HEP [Regulation 71]

3.10.1 NAPAF for HEPs were notified in Tariff Regulations, 2024. However, NAPAF for the station Karcham Wangtoo was not revised, while norms for similar and downstream HEPs were revised. Accordingly, it is proposed to revise the NAPAF (%) of the station Karcham Wangtoo in line with similar HEPs and consider the NAPAF of downstream projects.
