CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:
Shri P.K.Pujari, Chairperson
Dr. M.K.Iyer, Member
Shri I.S.Jha, Member

Suo Motu Petition No. 10/SM/2019

Date of Order: 18.10.2019

In the matter of

Methodology for Compilation of Coal Price Index applicable for Power Sector

ORDER

In pursuance of Clause 5.6 (vi) of Ministry of Power (MOP) Notification dated 19.1.2005, as amended from time to time, on Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees, the Central Electricity Regulatory Commission notifies, every six months, various escalation rates including the escalation rate for domestic coal for payment. The escalation rate for domestic coal for payment is being computed using the methodology developed by the Commission in July 2009.

2. As per the existing methodology, WPI for Non-coking coal (G7-G14) published by the Office of the Economic Adviser (OEA), Ministry of Commerce and Industry, is being used for computing the escalation rate for domestic coal since April 2017. While compiling the WPI for Non-coking coal, OEA has considered the average price of Non-coking coal applicable for power sector and other than power sector.

3. The stakeholders have represented that the increase in price of Non-coking coal applicable for power sector is different from the increase in price of Non-coking coal applicable for other than power sector. They also pointed out

significant variation in the price of Non-coking coal applicable for power sector and other than power sector through data obtained from the Coal India Ltd notification dated May, 2016. Therefore, it has been argued that WPI based on average price is not reflective of actual increase in the price of Non-coking coal applicable for power sector. In view of this, the stakeholders of power sector have expressed their concerns before the Commission, through Petitions and representations, about the present practice of using WPI for Non-coking coal for computing the escalation rate for domestic coal.

4. The Commission pursued the matter with OEA, Ministry of Commerce and Industry and sought for compilation of WPI for Non-coking coal for exclusive use of power sector. OEA, in its response, mentioned that customized compilation of WPI for any particular sector is not possible. As an alternative, OEA suggested that the Commission may develop its own index keeping in mind the specific needs of the power sector.

5. On 6.3.2019, a meeting of officials of the Commission was held with the representatives from OEA and Ministry of Statistics and Programme Implementation (MOSPI) to discuss the draft staff paper on "Methodology for Compilation of Coal Price Index applicable for Power Sector". The representatives from OEA and MOSPI broadly agreed on the proposed index, formula, etc. However, they suggested (i) to use monthly data on price and volume of coal or value of coal for base year; and (ii) to get the approval from Technical Advisory Committee on Statistics of Prices and Cost of Living (TAC on SPCL) for examination and approval of the technical details pertaining to the index developed by the Commission.

6. Keeping the above background in view, a Staff paper on the "Methodology for Compilation of Coal Price Index applicable for Power Sector" was prepared. The objective of the staff paper was to develop and compile an appropriate coal price index applicable for power sector and to recommend the same for the use of the Commission for computing the escalation rate for domestic coal for payment in place of WPI for Non-coking coal (G7 to G14).

7. Views and suggestions of the stakeholders and other interested persons on the staff paper were invited through a public notice dated 25.4.2019 and 24.5.2019. In response to the public notice, views and suggestions on the staff paper have been received from the following stakeholders:

(i) Maharashtra State Electricity Distribution Company Ltd (MSEDCL)
(ii) Gujarat Urja Vikas Nigam Ltd (GUVNL)
(iii) Tata Power Company (TPC)
(iv) Dhariwal Infrastructure Ltd (DIL)
(v) GMR Energy Ltd (GMR)
(vi) M B Power (Madhya Pradesh) Ltd (MBPL)
(vii) Association of Power Producers (APP)
(viii) Adani Power Ltd (APL)
(ix) Madhu Gupta & Co
(x) Centre for Energy Regulation (CER)

8. The views and suggestions of the above mentioned stakeholders have been discussed in brief in the succeeding paragraphs.

9. Madhu Gupta & Company has submitted that there was a change in the methodology w.e.f. 12.5.2017 i.e. using WPI for Non-coking coal (G7 to G14) in place of WPI for Non-coking coal (G1 to G17). Change of methodology in less than two years is against the principle of regulatory certainty. As per the competitive bidding guidelines, the bidders are free to use any fuel or any grade of coal for power generation. Considering the price of non-coking coal (G7 to G14) as proposed in the methodology for compilation of coal price index is not in line with the terms and conditions of competitive bidding guidelines. The change of methodology is in deviation from the existing Power Purchase Agreements (PPAs) and competitive bidding guidelines.

10. MSEDCL has submitted that since the usage of coal varies from generator to generator, the coal price index should be computed based on the price of actual

grades of coal used by the power producers instead of price of G7 to G14 as proposed in the methodology. In this context, DIL and GMR have submitted that since majority of the power producers use coal grades of G10 to G13, the index should be based on the price of Non-coking coal for the grades from G10 to G13. CER has submitted that there is a need for more representative coal price index for determining the escalation factor.

11. Considering the variations in the production and supply quantities, GMR submitted that Paasche Index would be more prudent and dynamic, fully incorporating the real price change in the index, when compared to Laspeyre's index. Since the proposed index is for only one commodity, it would be prudent and easier to implement Paasche Index. GMR has further submitted that if the Commission feels Laspeyre's index is more practical method to implement, the base year must be revised every 3 years. In this context, CER has suggested that the Paasche Index would be more suitable as it uses current period weights.

12. DIL, Madhu Gupta & Company and GMR have submitted that the computation of 'Value of Non-Coking Coal' is required to be elaborated in the proposed methodology.

13. APP and MBPL have submitted that the price of Non-coking coal was revised by CIL on 9.1.2018. The price data for the month in which coal price increased (i.e. January 2018) should reflect pro-rata calculation based on the day of the price increase.

14. APP, GUVNL, MBPL, TPC, DIL and GMR have submitted that the level of production and price of coal are subject to frequent variations and have pointed out the limitation of Laspeyre's Price Index wherein base year quantities are taken as weights. To overcome the limitation of the Laspeyre's Price Index, these stakeholders have suggested revision of the base year every 2/3 years in place of 5 years as proposed in the methodology for compilation of coal price index.

15. MBPL, DIL and GMR have submitted that the coal grade, price and quantity of coal dispatched by Western Coalfields Ltd (WCL) differ significantly from other

Coal India Ltd (CIL) subsidiaries. They have further submitted that since Geometric Mean of the Elementary Price Index does not take into account the weights of WCL and other CIL subsidiaries, it is not known if the proposed methodology would address this situation if there are any variations in prices and quantities.

16. In May, 2016, there was a significant increase in the price of coal applicable for power sector compared to the price of coal applicable for non-power sector. Keeping this in view, APP, GMR and MBPL have suggested that the coal price index should be compiled from April, 2016 and the same should be used for computing the escalation rate for domestic coal applicable from April, 2017. They have further submitted that the computed escalation rate should be used for base correction and not for payment for the period from April, 2017 to September, 2019. The escalation rate based on the compiled coal price index should be used for the purpose of payment prospectively from October, 2019.

17. APP and MBPL have suggested that October, 2019 notification should consider the data from October, 2018 to September, 2019 and not from September, 2018 to August, 2019 as proposed in the methodology to reduce the lag in the data used for the notification.

18. TPC has suggested that the price of washed coal should be considered while arriving at the coal price index. It also suggested that the new index should consider the price of Non-coking coal including indirect tax.

19. APL has submitted that CIL has been increasing the rates of Sizing Charges and Surface Transportation Charges steeply while it is increasing the basic coal price (ROM Price) moderately. The Bidders are unable to recover this abnormal increase in expenditure on Sizing Charges and Surface Transportation Charges as they are neither covered in escalation rates nor allowed in change in law. Such charges not allowed under change in law may be compensated by subsuming these charges in the price of coal used for the proposed coal price index.

20. DIL has submitted that migration from the present escalation index, i.e. from WPI for Non-coking coal to the proposed coal price index, was not explained in the methodology.

21. GUVNL has submitted that the methodology should clearly specify whether the proposed coal price index can be used even for power generating entities using grades of Non-coking coal other than G7 to G14.

22. CER has submitted that the quantity of coal should be used as weights in place of value of coal (Price x Quantity) for the reason that value as weights would overestimate the price index as costly coal grades would automatically have higher weights. It has further submitted that geometric mean of monthly prices for the coal price may lead to under estimation of the true cost of the coal.

23. Keeping in view the requirement and importance of the issue, the Commission conducted a public hearing on 8.7.2019 for wider public consultation. About 14 representatives from various organizations attended the public hearing. Oral submissions were made by the representatives of the following organizations:

(i) Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO)
(ii) Adani Power Ltd (APL)
(iii) Lanco Anpara Power Ltd (LAPL)
(iv) Hindustan Power Ltd (HPL)
(v) Madhu Gupta & Co (MGC)
(vi) GMR Energy Ltd (GMR)

24. The submissions made during the public hearing are briefly discussed in the succeeding paragraphs.

25. The representative of TANGEDCO submitted that TANGEDCO is using two grades of coal (G12 and G13) for its power generation. Keeping its usage of coal in view, TANGEDCO has suggested that price of different groups of grades of coal should be considered for compilation of coal price index in place of price of G7 to G14.

26. The representatives of APL, Madhu Gupta & Company and GMR reiterated the submissions made in their written submission.

27. The representative of HPL proposed 2015-16 as the base year in place of 2017-18 as proposed in the methodology to capture the increase in price of Non-coking coal applicable for power sector through CIL notification dated May, 2016.

28. Considering the submissions made by the stakeholders and views expressed during the public hearing, the Commission has decided the following principles for determining the methodology for compilation of the coal price index:

(i) **Price Index:** Laspeyres Index is generally used for compilation of price indices (Ex:-Wholesale Price Index and Consumer Price Index i.e. for the purpose of inflation). In their submissions, some of the stakeholders have suggested to use Paasche Index for compilation of the coal price index. The Laspeyres Index uses base period quantities, whereas the Paasche Index uses current period quantities. Paasche Index can be used only when up-to-date data on price and quantity of Non-coking coal is available. Based on the purpose and practicability, the Commission has considered Laspeyres Index for compilation of the coal price index.

(ii) **Base Year:** The year 2017-18 has been considered as the base year for compilation of the coal price index. The Commission has already notified the escalation rate for domestic coal applicable till September, 2019. Therefore, the proposed coal price index shall be applicable prospectively.

(iii) **Grades of Coal:** Some of the stakeholders have submitted that majority of power producers are using G10-G13 grades of Non-coking coal. However, keeping in view the grades of Non-coking coal used by all power producers through competitive bidding, the Commission has decided to consider G7 to G14 grades of Non-coking coal for compilation of the coal price index.

(iv) **Price of Non-coking coal:** Coal India Ltd notifies the pit head run of mine (ROM) price of non-coking coal applicable for power sector (a) for all subsidiaries of CIL excluding WCL and (b) for WCL separately. These prices reflect adequately the changes in the price of non-coking coal applicable for power sector. Therefore, the Commission has decided to consider the price of WCL and all other subsidiaries of CIL for compilation of the coal price index.

(v) **Base Year Price:** Base year price shall be the geometric mean of monthly prices of Non-coking coal of the base year. Monthly price of Non-coking coal has been computed on pro-rata basis based on the day of the price increase and the same has been used for computing the base period price.

(vi) **Base Year Weights:** Weights shall be based on the value of Non-coking coal dispatched to power sector. Value of Non-coking coal shall be computed based on monthly price and quantity of Non-coking coal.

(vii) **Exclusion:**

a. Though some of the stakeholders suggested to compute the index based on price including taxes, the same has not been considered for the reason that it would distort the index and inflation figures.
b. Surface Transportation Charges and Sizing Charges are not part of the price of coal notified by CIL and are therefore not considered in the price of coal used for compilation of the coal price index.

29. The Technical Advisory Committee on Statistics of Prices and Cost of Living (TAC on SPCL), Ministry of Statistics and Program Implementation (MOSPI), in its 66th Meeting held on 26th September, 2019, considered and endorsed the above principles (Para 28 (i) to (vi)) for compilation of 'Coal Price Index' for power sector and also made the following Recommendations:

(i) Since the weights for WCL and CIL prices are available with CERC, Weighted Geometric Mean may be used for compiling Elementary Prices Indices, instead of simple Geometric Mean proposed by CERC.

(ii) As the basket comprises of limited grades of Coal (G7-G14), the revision of Base Year may be conducted every three years.

30. Based on recommendations of the TAC on SPCL, the coal price index shall be compiled in the following two stages:

(i) In the first stage, the grade-wise indices (i.e. elementary price index) are calculated using "Jevons Index formula", basing on the Weighted Geometric Mean of price relatives (i.e. the price change). Price relatives are calculated as the percentage ratios, i.e. by dividing the current price by the base period price and multiplying the quotient by 100.

(ii) In the second stage, these elementary price indices are aggregated using weighted arithmetic mean to obtain coal price indices using Laspeyre's index formula, which has a fixed base-year weighting diagram operative through the entire life span of the series. The formula used is as under:

$$I = \sum (Ii \times Wi) / \sum Wi$$

Where, $\sum$ represents the summation operation

I = Coal Price Index for G7-G14 grades of coal

Wi = Weight assigned to the i th grade of coal

Ii = Price Index of the i th grade of coal (Elementary Price Index)

31. The period of coal price index from September, 2018 to August, 2019 shall be considered for computing the escalation rate for domestic coal applicable for the period from October, 2019 to March, 2020 (i.e. with one month lag) keeping in view the practice followed for computing the escalation rates for imported coal and imported gas.

32. As recommended by TAC on SPCL of MOSPI, it is decided to revise the base year every 3 years.

33. The compiled coal price index is meant for computing the escalation rate for domestic coal for payment for procurement of power by the distribution licensees through competitive bidding.

34. The Coal Price Index shall be updated on the website of the Commission (www.cercind.gov.in) from time to time.

35. We direct that the escalation rate for domestic coal for payment applicable for the period commencing 1.10.2019 shall be notified in accordance with the Coal Price Index discussed in Paras 28 to 30 of this order.

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(I. S. Jha) **Member**	**(Dr. M. K. Iyer)** **Member**	**(P. K. Pujari)** **Chairperson**