CENTRAL ELECTRICITY REGULATORY COMMISSION
4th Floor, Chanderlok Building, 36, Janpath, New Delhi-110001
Ph: 23753942 Fax- 23753923

Petition No: 244/MP/2016 **Date: 14.11.2017**

NOTICE

A copy of the Ministry of Power letter dated 10.11.2017 and CEA letter No. 228/MISC/TPP&D/CEA/2017/1432 dated 17.10.2017 with regard to measurement of GCV of Coal on “as received” basis as per the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 are enclosed for information and comments, if any.

2. Stakeholders intending to submit their comments shall ensure that same shall be filed by 20.11.2017.

Sd/-
(Sanoj Kumar Jha)
Secretary

Aniruddha Kumar
संयुक्त सचिव
JOINT SECRETARY
Tele Fax 011-23714842

सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
विद्युत मंत्रालय
MINISTRY OF POWER
श्रम शक्ति भवन, रफी मार्ग
SHRAM SHAKTI BHAWAN, RAFI MARG

D.O. No. 3/2/2017-Th-I(Part)

नई दिल्ली - 110001 10th November, 2017
NEW DELHI - 110001

Dear Sanoj,

Please refer this Ministry letter of even number dated 05.04.2017 and CERC letter No. 9/21/2017-RA-GC/MoP/CERC/Pt.file dated 19.06.2017 regarding the recommendation given in Performance Audit Report No. 35 of 2016 on "Fuel Management of Coal Based Power Stations of NTPC Limited" of C&AG at para 8.2.2 on the matter of review the method for Energy Pricing for the NTPC Stations.

2. As suggested by the Hon. Commission, the matter was referred to CEA to examine the issue CEA has examined the issue afresh in the light of view taken by various state regulators regarding treatment of loss in the heat value of coal between **"as received"** and **"as fired"** for the purpose of determination of tariff allowed to generators. CEA vide letter dated No. 228/MISC/TPP&D/CEA|2017/2437 dated 17.10.2017 has informed that the margin of loss in GCV between **as fired** and **as received** would vary from plant to plant, season to season and varying coal characteristics. CEA is of the opinion that a margin of 85-100 kcal/kg for a pit head station and a margin of 105-120 kcal/kg for a non-pit head station may be considered as a loss of GCV of coal between **"as received"** and **"as fired"**.

3. Copy of letter of CEA dated 17.10.2017 is enclosed for the consideration of Hon Commission.

With best wishes

Yours sincerely,

Encl: As above.

(Aniruddha Kumar)

Shri Sanoj Kumar Jha
Secretary, CERC
Chandarlok Building,
Janpath, New Delhi.

सत्यमेव जयते

भारत सरकार
Government of India
विद्युत् मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
तापीय परियोजना योजना एवं विकास प्रभाग
Thermal Project Planning & Development Division

Sub: Issue of measurement of Coal GCV on "as received" basis as per the 2014 Tariff Regulation – reg.

Ref: MoP letter no. 3/2/2017-Th-I Dated 28.06.2017

PUC is the DO letter from Central Electricity Regulatory Commission (CERC) No. 9/21/-RA-GC/MoP/CERC/Pt. File dated 19th June 2017 received on the above mentioned subject.

It is stated in the above referred letter that C&AG in its Performance Audit Report on "Fuel Management of Coal Based Power Stations of NTPC Limited" submitted to MoP had observed that the 'quality assessment of coal has inherent as well as manmade infirmities due to heterogeneous nature of coal and sampling errors'. The C&AG had recommended that there is a need to appropriately review the methods for energy pricing and had requested MoP to coordinate with CERC in light of the audit findings.

Also, it is stated that NTPC in its reply has highlighted the issues of sampling error on account of change of point of sampling for measurement of GCV from "as fired" to "as received" basis as per the 2014 Tariff Regulations, non-homogeneous nature of samples taken from the wagons, loss of GCV from point of "as received" to the point of "as fired", and difficulty with coal sampling through 'Augurs'.

The observations of C&AG along with NTPC's views in this regard were forwarded by MoP to CERC for consideration. In reply, CERC in its letter dated 19.06.2017 requested MoP for consulting CEA in this regard and accordingly the matter was referred to CEA.

The issue has been examined in CEA. After preliminary discussions with NTPC on the issue on 05.09.2017, CEA has also taken views of other specialist agencies in the field of coal such as CIMFR and CPRI in the meeting held on 21.09.2017.

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It is acknowledged that there is a loss of GCV from point of "as received" to the point of "as fired" inside a power plant mainly due to following factors:

(i) **Effect of Moisture in GCV of coal sample taken from Wagon Top**

As stated by C&AG, there are sampling errors on account of heterogeneous nature of coal. This issue was deliberated in detail with CIMFR and CPRI. Both CIMFR and CPRI acknowledged the difference in wagon top-bottom GCV due to heterogeneous nature of coal, tendency of moisture to settle at the bottom and exposure of top layer to atmosphere.

CEA is of the view that GCV measurement of wagon top coal will give comparatively higher GCV value due to settling of moisture at the bottom of the wagon and loss of moisture from wagon top during transportation of coal, however, loss in GCV will vary as per seasonal variations.

(ii) **Loss in GCV during coal storage inside power plant**

CEA is of the view and also substantiated by many national and international papers that there is a loss of GCV in the coal stock where coal is stored inside the power plant, mainly due to oxidation and weathering effect. Further, most of the losses in GCV during long storage of coal takes place in the initial period of storage, mostly due to loss in volatile content.

(iii) **Reduction in GCV during handling inside power plant**

C&AG in its Performance Audit Report has observed that GCV of coal progressively decreased from 'as billed' stage to 'as fired' stage.

It is acknowledged that there are minor unavoidable losses inside the power plant in handling the coal starting from unloading point to the point of bunkering. Loss in GCV may occur mainly due to dust suppression measures used around coal conveyors and transfer points, loss in volatile matter during crushing of the coal etc.

CEA has also examined the views taken by various state regulators for considering such loss for the purpose of tariff allowed to generators. However, as the margin would vary from plant to plant, season to season and varying coal characteristics, CEA is of the opinion that a margin of 85-100 kCal/kg for a pit head station and a margin of 105-120 kcal/kg for a non-pit head station may be considered as a loss of GCV measured at wagon top till the point of firing of coal in boiler.

17/X/17

(Phool Chandra)
Chief Engineer (TPPD)

Joint Secretory, Min of Power

No. 228/MISC/TPP&D/CEA/2017/1432 Date: 17.10.2017

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Thermal Project Planning & Development Division

Sub: Issue of measurement of Coal GCV on "as received" basis as per the 2014 Tariff Regulation – Corrigendum to CEA letter no. 228/MISC/TPP&D/CEA/2017/1432 dated 17.10.2017 .

In reference to MoP letter no. 3/2/2017-Th-I Dated 28.06.2017 on the above subject, CEA has furnished comments vide letter even no. dated 17.10.2017. In respect to this letter the following corrigendum is issued.

The last para of the letter may be read as below:

CEA has also examined the views taken by various state regulators for considering such loss for the purpose of tariff allowed to generators. However, as the margin would vary from plant to plant, season to season and varying coal characteristics, CEA is of the opinion that a margin of 85-100 kCal/Kg for a pithead station and a margin of 105-120 kCal/kg for a non-pithead station may be considered as a loss of GCV measured at wagon top **at unloading point** till the point of firing of coal in boiler.

(Phool Chandra)
Chief Engineer (TPPD)

Joint Secretery, Min of Power

No. 228/MISC/TPP&D/CEA/2017/1433 Date: 18.10.2017