CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 68/MP/2015

Coram:
Shri Gireesh B.Pradhan, Chairperson
Shri A.K.Singhal, Member
Shri A.S.Bakshi, Member
Dr. M.K.Iyer, Member

Date of order: 6th September 2016

In the matter of

Petition under Regulation 55 of the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulation, 2014 read with Regulation 111 and other related Regulations of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for providing uniform methodology to be used for billing incentive to beneficiaries as per Regulation 30(4) of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulation, 2014.

And
In the matter of

NTPC Limited
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110 003 **…Petitioner**

Vs.

1. Eastern Regional Power Committee
14, Golf Club Road, Kolkata-700 033

2. Northern Regional Power Committee
18-A, Katwaria Saria, New Delhi-110 016

3. Southern Regional Power Committee
19, Race Course Cross Road, Bangalore-560 009

4. Western Regional Power Committee
F-3, MIDC Area, Andheri (East0, Mumbai-400 093 **..Respondents**

The following were present:

Shri Ajay Dua, NTPC
Shri Rajiv Kumar, NTPC
Shri B.S.Bairwa, NTPC
Shri Manish Maurya, WRPC

ORDER

This petition has been filed by NTPC Limited under Regulation 55 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (2014 Tariff Regulations) to prescribe uniform methodology for distribution of incentive among the beneficiaries under Regulation 30 (4) of the 2014 Tariff Regulations.

2. The petitioner has submitted that the following facts have led to filing of this petition:

(a) Regulation 30 (4) provides for the entitlement of incentive to the generating station. Regulation 36 (B) provides that for incentive, Normative Annual Plant Load Factor (NAPLF) for all thermal generating stations shall be taken as 85%. However, 2014 Tariff Regulations do not specify the methodology for apportionment of the incentive amount amongst the various beneficiaries of the generating station.

(b) As per Regulation 2.4.5 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010, billing and payment of various charges shall be as per the Regional Energy Account (REA) issued by the respective RPCs

(c) As per the present practice, the monthly REA issued by the respective RPCs provides for the quantum of monthly scheduled generation for all the generating stations of the region. However, for the purpose of incentive eligibility of the generating station and its apportionment, RPCs are adopting the following different methodology for billing of incentive to the beneficiaries:

(i) Southern Regional Power Committee: Beneficiaries which have scheduled energy from a generating station for more than 85% of their share corresponding to 100% PLF are made liable to pay incentive corresponding to their schedule above 85%. This is irrespective of the fact whether the generating station as a whole has achieved 85% PLF or not. However, it is understood that the same is under review by SRPC.

Energy eligible for incentive to be paid by beneficiary for the month = Scheduled Energy for the month-Entitlement corresponding to 85% PLF of the generating station.

(ii) Northern Regional Power Committee**:** If the generating station is eligible for incentive (cum PLF >85%), the amount payable to the generating station is apportioned to all beneficiaries in the ratio of their cumulative schedule generation up to the month, even if a beneficiary may not have scheduled power from the stations for more than 85% level.

(iii) Eastern Regional Power Committee**:** If the generating station is eligible for incentive (cum PLF >85%), the amount payable to it is apportioned only to the beneficiaries who have scheduled more than 85% PLF in proportion to their schedule above 85%.

(iv) Western Regional Power Committee**:** Incentive amount/energy is not reflected in the REA. However, to bill the incentive energy from Western Region stations of NTPC, methodology adopted by ERPC is followed by NTPC;

(d) All RPCs should follow the same methodology for billing of inventive to the beneficiaries as intent of the 2014 Tariff Regulations is to follow uniform methodology. However, in the absence of methodology of billing of incentive to the beneficiaries in 2014 Tariff Regulations, RPCs are adopting various methods of incentive which in turn creating a situation where for the same schedule generation; incentive payable by the beneficiary is calculated in different manner by RPCs.

(e) NTPC has certain beneficiaries which have been allocated power from the generating stations located in the different region. In such cases, variation in methodology adopted by different RPCs has created anomaly and may dispute in bills raised by NTPC based on the REAs.

3. Against the above background, the petitioner has made the following prayers:

> "(a) Prescribe uniform methodology for distribution of the incentive among beneficiaries under Regulation 30 (4) read with Regulation 55 of the 2014 Tariff Regulations; and
>
> (b) Direct RPCs to follow the uniform methodology as prescribed by the Commission for the tariff period 2014-19."

4. The matter was admitted on 18.6.2015 and notices were issued to the respondents to file their replies. Replies have been filed by the Southern Regional Power Committee, Northern Regional Power Committee, Western Regional Power Committee and Eastern Regional Power Committee.

5. Southern Regional Power Committee (SRPC) in its reply dated 9.7.2015 has submitted that SPRC is adopting the following methodology:

- Incentive energy of the station=Scheduled energy of the station
    - Installed capacity (MW)*(1-AUX)*NPLF*(Number of Days)*24 (Hours)*% Allocation.
- In case incentive energy of generating station is greater than 'Zero' then the entitled incentive energy of the generating station is apportioned among the beneficiaries in the ratio of Incentive energy for the beneficiaries of those beneficiaries whose incentive energy is greater than 'Zero' to arrive the incentive energy payable by the beneficiaries.
- Incentive Energy of a station is the incentive paid to a generating station for excess generation above normative generation.
- Incentive to be paid by its beneficiary should be in the proportion of usage of such excess generation by each of its beneficiary. Usage of excess generation above normative generation by each

of its beneficiary can be computed as Scheduled energy by the beneficiaries- Installed capacity (MW)*(1-AUX)*NPLF*(Number of Days)*24 (Hours)*%Allocation.

6. SRPC has further submitted that there had been an inadvertent error in calculation of incentive energy for the beneficiaries where incentive energy payable by the beneficiaries was shown with the generating station PLF being less than NPLF. The error had already been corrected during the month of January, 2015.

7. Western Region Power Committee (WRPC) in its reply dated 13.7.2016 has submitted that as per the present practice, monthly REA issued by WRPC, *inter-alia,* provides monthly scheduled generation for applicable generating station of the Western Region and monthly energy scheduled by each of the beneficiary in each of the generating station for all the generating stations of the Western Region which is sufficient to calculate incentive. Based on the data reflected in the REA, the billing of the incentive is claimed by the generating station to its beneficiaries as per the provisions of 2014 Tariff Regulations. Therefore, REA prepared by WRPC does not show separately the incentive charges calculations for the generating station. WRPC has submitted that the petitioner is billing the incentive to its beneficiaries as per REA data of WRPC. The beneficiaries of the generating station in Western Region are paying the incentive as claimed by NTPC without any dispute. WRPC has submitted that the methodology adopted in ER and WR is more aligned with the 2014 Tariff Regulations as the beneficiaries are encouraging/demanding more generation from a particular

plant and therefore making it eligible for claiming incentive charges be charged the incentive charges, i.e. if the generating station is eligible for incentive (cumulative PLF>Normative Annual PLF), the amount payable is apportioned only to such beneficiaries who have scheduled more than 85% of PLF, in proportion to their schedule above 85%.

8. Northern Regional Power Committee (NRPC) in its reply dated 16.7.2015 has submitted that NRPC secretariat has adopted a method of apportionment for giving effect to 2014 Tariff Regulations which was earlier used for giving effect to 2004 and 2009 Tariff Regulations. NRPC has submitted that the following algorithm is used by NRPC Secretariat for calculation of energy eligible for payment of incentive and its apportionment amongst beneficiaries:

a. Computed cumulative scheduled energy of the station for the financial year up to the billing month in LUs(S_{cum})
b. Calculate energy equivalent to Normative Annual Plant Load Factor (NAPLF) in LUs.

   [S_{NAPLF}=(NAPLF/100)x (ICx(1-AUX/100)x24xN)/100

   Where

   IC-Installed Capacity of station in MW,

   AUX-Normative Auxiliary Consumption in % and

   N-No. of days of the financial year up the end of billing month]
c. If S_{cum}>S_{NAPLF}, else E_{inc}=0
d. Apportion E_{inc} amongst beneficiaries in the ratio of cumulative schedule energies for the financial year upto the billing month for all the beneficiaries of the station.
e. Subtract E_{inc} upto previous month from E_{inc} upto billing month to get the incentive energy to be billed for this month.

9. NRPC has further submitted that the above algorithm is based on the fact that all the beneficiaries, who had scheduled energy from the generating station, have contributed in achievement of Plant Load Factor beyond NAPLF and hence, they should share the incentive payable to the generator proportionately. NRPC has prayed that the Commission should specify as to whether cumulative adjustment of incentive payable should be done on monthly basis or incentive calculation should be done only once after the end of financial year as the Regulation is silent on this issue.

10. Eastern Regional Power Committee (ERPC) in its reply has submitted that as per Regulation 30 (4) of the 2014 Tariff Regulations, incentive is payable only if the generating station/unit achieves a PLF higher than NAPLF. The first step of incentive calculation by ERPC checks whether the generating station/unit itself is eligible for incentive. ERPC has submitted that charging incentive on beneficiaries based on their drawl schedule in excess of their NAPLF schedule in case when the generating station/unit itself is not eligible for incentive would be not appropriate. With regard to apportionment of incentive, ERPC has submitted that 2014 Tariff Regulations do not specify the methodology for apportionment of incentive. In the second step, ERPC Secretariat apportions the incentive among the beneficiaries who have drawn more than 85% (NAPLF) of their entitlement in a quarter in the ratio of their excess drawl above 85% entitlement. This ensures that the constituents who have benefited/used the excess scheduled generation share the burden of incentive. WRPC has submitted that

apportionment of incentive, in proportion of share allocation would not be appropriate as certain beneficiary drawing less than their NAPLF schedule would have to bear the incentive charges without deriving any benefit. WRPC has submitted that presently, ERPC Secretariat calculates incentive quarterly. However, incentive amount for certain generating stations such as FSTPS-I and II, KHSTPS-I and II and FSTPS-III, etc. do not qualify for incentive on quarterly basis. Therefore, frequency of issue of incentive statements by RPCs should be considered on annual basis which was the case in the 2009 Tariff Regulations.

Analysis and Decision:

11. We have considered the submissions of the petitioner and the respondents. In the present petition, the petitioner has prayed to prescribe a uniform methodology for distribution of incentive among beneficiaries under Regulation 30 (4) of the 2014 Tariff Regulations so that implementation of the provisions of the regulation is ensured in a consistent manner. The petitioner has submitted that at present, different methodologies are being followed by RPCs for billing of incentive to the beneficiaries in absence of specific methodology for distribution of incentive.

12. Regulation 30 (4) of the 2014 Tariff Regulations provides as under:

> "(4) Incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paisa/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) as specified in regulation 36 (B). "

Perusal of above provision reveals that incentive has been linked to Plant Load Factor instead of Plant Availability Factor. The reason for shifting from PAF to PLF basis was to ensure that beneficiaries pay for the excess energy above 85% if it is actually scheduled by the beneficiaries. In this regard, in the Statement of Reasons to the 2014 Tariff Regulations, the following has been observed so that the beneficiary pays for any incentive if the beneficiary receives power above target PLF (as specified in the 2014 Tariff Regulations):

> "34.16 Most of the generating companies have requested to provide the incentive linked to availability as per 2009-14 Tariff Regulations, while on the other hand, most of the beneficiaries and other stakeholders have requested to reduce the incentive of 50 paise/unit linked to PLF as proposed in the draft Regulations. The Commission, in the Explanatory Memorandum to the draft Regulations mentioned that after taking into account the difficulties faced by various distribution utilities and issues arising out on account of **payment of incentives without receiving power leading to increased average cost of power purchase,it proposed to re-introduce** separate norms for recovery of full fixed charges linked to the target availability and **norms for target PLF above which the incentive shall be applicable**.
>
> 34.17 Considering the prevalent demand supply scenario in the country and other factors affecting the actual generation, it will be more appropriate to have incentive linked to PLF instead of Availability……………………**".**
>
> 34.18 The Availability Based Tariff (ABT) was introduced by the Commission in the year 2000 vide its order dated 4.1.2000 and implemented through Tariff Regulations, 2001. However, incentive was based on Plant Load Factor. This was continued in Tariff Regulation 2004 for the tariff period 2004-09. It is found that mere availability of the station does not lead to commensurate benefit to the beneficiaries. The Commission, in the Explanatory Memorandum to the draft Regulations, has proposed to re-introduce separate norms for recovery of full fixed charges linked to the target availability and norms for target PLF above which the incentive shall be applicable considering the difficulties faced by various distribution licensee. The distribution companies were to pay incentives beyond the target availability without receiving power. This

lead to increased average cost of power purchase of distribution licensee.

The Commission observed that the all India PLF for coal based generating station during FY 2008-09 was 77.22%, which has decreased to 70% in FY 2012-13. Further, in case of NTPC stations, the average PLF for thermal generating stations during FY 2008-09 was around 91.14% against which the PAF was 92.47% and the gap between the PLF and PAF was not much. However in FY 2012-13, the actual average PLF for NTPC"s thermal generating stations dropped to 83% and average PAF was 90.20% and thus, the gap between the PLF and PAF has increased considerably to about 7% in FY 2012-13. This gap is higher in case of some of the stations. Several stakeholders have also pointed out the variation in PLF with respect to PAF. One of the reasons for such a difference between PAF and PLF of generating stations could be that some of the generating stations have slipped in merit order and under such circumstances, the incentive linked to PAF will not provide commensurate benefit to beneficiaries in the changed scenario of fuel shortage. Further, in case incentive is linked to PAF, it will not incentivise the generator to optimise the procurement of fuel from alternate sources in case of shortage. In addition, the argument submitted by POSOCO that the incentive should be earned and not granted is also relevant in the present context. The Commission is therefore, of the view that as the PLF has reduced considerably and incentive linked to PAF will lead to payment of incentives to generators even when PLF is much below the NAPAF, it will result in loading of such cost to energy purchase thereby increasing the per unit cost of power. Further, the Commission observed that when the incentives were linked with the plant availability, even if the generating station was not scheduled to provide electricity, the beneficiaries were bound to make payment of incentives in addition to payment of entire fixed cost without receiving any power from the generating station leading to loss to the beneficiaries". The Commission has therefore, decided to change the methodology for incentives considering the present circumstances, market trends and power scenario in the country. "

13. Regulation 3 (45) of the 2014 Tariff Regulations defines PLF as under:

"(45) **'Plant Load Factor' or '(PLF)'** in relation to thermal generating station or unit for a given period means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \sum_{i=1}^{N} SGi / \{N \times IC \times (I00-AUXn)\} \%$$

Where,

IC = Installed Capacity of the generating station or unit in MW,

SGi= Scheduled Generation in MW for the ithtime block of the period,

N = Number of time blocks during the period, and

AUXn= Normative Auxiliary Energy Consumption as a percentage of gross energy generation;"

As per above provisions and observations made in the Statement of Reasons to the 2014 Tariff Regulations, the generating station is entitled to incentive if the sent out energy corresponding to scheduled generation during a period is more than 85% of installed capacity and the incentive should be paid by the beneficiaries who have scheduled energy beyond 85% of their allocation in the installed capacity.

14. We have examined the methodology followed by RPCs. SRPC is adopting the following methodology for calculation of incentive charges/energy payable by the beneficiaries:

- Incentive energy of the station=Scheduled energy of the station
    - Installed capacity (MW)*(1-AUX)*NPLF*(Number of Days)*24 (Hours)*% Allocation.

- In case incentive energy of generating station is greater than 'Zero' then the entitled incentive energy of the generating station is apportioned among the beneficiaries in the ratio of Incentive energy for the beneficiaries of those beneficiaries whose incentive energy is greater than 'Zero' to arrive the incentive energy payable by the beneficiaries.

- Incentive Energy of a station is the incentive paid to a generating station for excess generation above normative generation.

- Incentive to be paid by its beneficiary may be in the proportion of usage of such excess generation by each of its beneficiary. Usage of excess generation above normative generation by each of its beneficiary can be computed as Scheduled energy by the beneficiaries- Installed capacity (MW)*(1-AUX)*NPLF*(Number of Days)*24 (Hours)*%Allocation."

15. Similarly, ERPC is adopting the following methodology for calculation of incentive charges/energy payable by the beneficiaries:

"(a) Eligibility of a generating station/unit for earning incentive:

Regulation 30(4) of CERC (Terms and Conditions of Tariff), Regulations, 2014 deals with the norms for the entitlement of incentive to the generating station….

It is amply clear from the above regulation that incentive is payable only if the generating station/unit achieves a PLF higher than the NAPLF.

The first step of incentive calculation by ERPC checks whether the station/unit itself is eligible for incentive.

Charging incentive on beneficiaries based on their drawl schedule in excess of their NAPLF schedule in case when the generating station/unit itself is ineligible for incentive may not be appropriate.

(b) Apportionment of Incentive:

CERC (Terms and Conditions of Tariff) Regulations, 2014 do not specify the methodology for apportionment of incentive.

In the second step, ERPC Secretariat apportions the incentive among the beneficiaries who have drawn more than 85% (NAPLF) of their entitlement in a quarter in the ratio of their excess drawl above 85% entitlement. This ensures that only those constituents who have benefited/used the excess scheduled generation share the burden of incentive.

Apportionment of incentive, in proportion of share allocation may not be appropriate since some beneficiary drawing less than their NAPLF schedule would have to bear the incentive charges without deriving any benefit.

(c) Frequency of Incentive Calculation:

ERPC Secretariat at present calculates incentive quarterly. However, it is seen that the incentive amount for many stations such as FSTPS-I & II, KhSTPS-I&II, FSTPS-III, etc do not qualify for incentive on quarterly basis. Therefore, it is requested that frequency of issue of incentive statements by RPCs may be considered as annual, which was the case in the 2004-09 Regulations also."

16. In Western Region, REA prepared by WRPC does not show separately the incentive charges calculating for the generating station. However, the petitioner is following methodology as adopted by ERPC.

17. It is noted that methodologies being followed by SRPC and ERPC are based on apportioning the amount of incentive among the beneficiaries who have actually scheduled power more than 85% PLF. In our view, methodologies followed by SRPC and ERPC are equitable and just in the context that the incentive amount apportioned only among the beneficiaries who have actually availed the power beyond 85%. It is noticed that the procedure followed by NRPC to apportion the incentive amount among all the beneficiaries of the generating station based on the fact that all the beneficiaries, who had scheduled energy from the generating station, have contributed in achievement of PLF beyond NAPLF, therefore, they should share the incentive payable to the generator proportionately. We are not in agreement with the methodology adopted by NRPC. In our view, methodology adopted by NRPC for apportionment of energy eligible for incentive among all the beneficiaries shall defeat the very purpose of linking incentive to PLF based instead of Availability based. Therefore, methodology adopted by NRPC cannot be considered.

18. In view of the above, to maintain uniformity for billing of incentive, in exercise of our power given under Regulation 55 of the 2014 Tariff Regulations, we direct that the methodology as adopted by ERPC shall be

considered by all Regional Power Committees for billing incentive energy to the beneficiaries of the generating station.

19. ERPC has submitted that frequency of incentive calculations should be done only once after the end of financial year. It is clarified that as per Regulation 42 of the 2014 Tariff Regulations, the generating company is required to raise the bills on the beneficiaries on monthly basis and accordingly, the incentive statements and billing of incentive has to be done on monthly basis. However, ERPC has submitted that incentive of certain generating stations such as Farakka STPS and Kahalgaon STPS, etc. do not qualify for incentive on quarterly basis. In view of the above, RPCs under such circumstances can decide on the frequency of incentive calculation and billing after discussion and agreement by stakeholders at RPC forum.

20. Petition No. 68/MP/2015 is disposed of in terms of the above.

Sd/-	sd/-	sd/-	sd/-
(Dr. M.K.Iyer)	**(A.S. Bakshi)**	**(A.K. Singhal)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Member**	**Chairperson**