

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 257/MP/2012

Coram:

Shri V.S.Verma, Member

Shri M.Deena Dayalan, Member

Date of Hearing: 11.6.2013

Date of Order: 9.9.2013

In the matter of

Miscellaneous Petition in the matter of non-compliance by the Respondents with Regulation 26 (ii) A (e) of Chapter-4 and Regulation 32 (1) of Chapter-5 of CERC (Terms and Conditions of Tariff) Regulations, 2009 in respect of payment of Energy Charge on account of Open Cycle operation of the Assam Gas Based Power Station (AGBP) to the Petitioner under Regulations 69 and 111 of CERC (Conduct of Business) Regulations 1999.

And in the matter of

North Eastern Electric Power Corporation Ltd, New Delhi

.... **Petitioner**

Vs

1. Assam Power Distribution Company Ltd, Guwahati

2. Tripura State Electricity Corporation Ltd, Agartala

....**Respondents**

Present

1. Ms. Debjani Dey, NEEPCO

2. Shri Paresh Barman, NEEPCO

3. Shri P.K.Sarma, APDCL

4. Shri K.Goswami, APDCL

ORDER

The petitioner, North Eastern Electric Power Corporation Ltd (NEEPCO), has filed this application praying for the following reliefs:

(i) Direct the Respondent No.1 and Respondent No.2 to immediately comply with Regulation 26(ii) A (e) of Chapter -4 and Regulation 32(1) of Chapter -5 of Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2009.

(ii) Direct the Respondent No.1 and Respondent No.2 to immediately clear the unpaid energy charges amounting to `99211213.00 and `11814303.00 for the period 01.04.2009 to 31.03.2012 and make payments regularly against current monthly energy bills already raised and to be raised by the Petitioner from time to time on account of open cycle operation of Assam Gas Based Power Station.

(iii) Issue any such directions or Orders as may be considered appropriate to ensure that the Respondents has sufficient disincentive in not complying with the Regulations.



Submissions of Petitioner

2. The petitioner has submitted that it is raising bills and collecting capacity charges & energy charges on monthly basis as per Regulation 32 of the CERC (Terms & Conditions of Tariff) Regulations, 2009 for the electricity sold from its generating station. It has also submitted that the specified Gross Station Heat Rate for Open Cycle and Combined Cycle operation of Assam Gas Based Power Project (AGBPP) as per Regulation 26(ii) A (e) of the CERC (Terms and Conditions of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations') were 3440 kCal/kWh and 2400 kCal/kWh respectively, and subsequently, the Commission by its order dated 7.6.2012 in Petition No.133/MP/2011 had revised the GSHR for Combined Cycle operation of the generating station to 2500 kCal/kWh. The petitioner has also pointed out that the Commission in paragraph 55 of its order dated 22.2.2008 in Petition No.150/2005 had made a specific provision for open cycle operation as under:

"FPA shall further be subjected to adjustment for monthly operating pattern adjustment (MOPA) for percentage open cycle operation as certified by REB/SLDC and corresponding to Gross Station Heat Rate of 3225 kCal/kWh and auxiliary energy consumption of 1%, as per formula given below: "

$$MOPA = (BEC + FPA) \times \left\{ \frac{(SHR_{no})}{(100 - AC_{no})} \right\} \left\{ \frac{(SHR_{nc})}{(100 - AC_{nc})} \right\} - 1 \times POCM / 100$$

Where,

MOPA - Monthly Operating Pattern Adjustment in Paise/kWh Sent Out

BEC - Base Energy Charge as per tariff order in Paise/kWh sent out

FPA - Fuel price Adjustment for a month in Paise/kWh Sent out

SHR_{no} - Normative Gross Station Heat Rate for Open cycle operation expressed in kCal/kWh (3225 kCal/kWh)

SHR_{nc} - Normative Gross Station Heat Rate for Combined cycle operation expressed in kCal/kWh (2250 kCal/kWh)

AC_{no} - Normative Auxiliary Consumption for Open cycle operation in percentage (1%)

AC_{nc} - Normative Auxiliary Consumption for Combined cycle operation in percentage (3%)

POCM - Open cycle generation during the month in percentage

3. It has further submitted that North Eastern Regional Power Committee (NERPC) makes a specific indication of the monthly Percentage Open Cycle Operation (POCM) of AGBPP in the monthly Regional Energy Accounts (REAs) issued by it for the purpose of billing. The petitioner



has also submitted that in terms of the provisions of the Regulation 26(ii) A (e) of the 2009 Tariff Regulations and on the basis of POCM indicated in the REAs issued by NERPC, the petitioner has raised energy bill for ₹ 992.11 lakh on respondent No.1 and ₹ 118.14 lakh on respondent No. 2 for Open Cycle mode of Operation for the period from 1.4.2009 to 31.3.2012 and has been raising current monthly energy bills on the said respondents for Open Cycle mode of Operation of AGBPP since April, 2012.

4. The petitioner while pointing out that the respondents have denied payment of energy charges on account of open cycle operation of AGBPP, has submitted that while the respondent No.2 has expressed non-acceptability of the said bills without assigning any reason, the respondent No.1 has not entertained the supplementary bills on the ground that open cycle operation is done on regular basis unilaterally by the petitioner to maintain plant availability factor with the aim to reduce the quantum of disincentive. The petitioner has further submitted that the above statement of the respondent No.1 is not based on facts, since open cycle operation of the plant is resorted to not as a matter of choice but due to compelling operational reasons as follows, on account of which it becomes essential to put one or more steam turbine under shut down.

(a) Scheduled maintenance of steam turbine generating units (STGs) and / or their auxiliaries; (in such cases prior approval of the beneficiaries is taken through the forum of Operation Coordination Committee meetings of the NERLDC and therefore, the statement of Respondent No.1 that the beneficiaries are not apprised of such instances is not true).

(b) Forced outage of steam turbine generating units and / or their auxiliaries;

5. The petitioner has submitted that in the above mentioned circumstances, the Gas Turbines are operated in order to utilise the available generating capacity since keeping the same idle, as suggested by the respondent No.1 would amount to under utilisation of available capacity and resources in violation of national and public interest. It has further submitted that it will not be justified on the part of the respondents to demand open cycle power at combined cycle tariff as this would deny the petitioner the opportunity to recover the cost of fuel. The petitioner has

contended that to specifically cater to such situations, where one or more STG is not available, the Commission has stipulated the Gross Station Heat Rate for open cycle operation of the plant under Regulation 26 (ii) A (e) of the 2009 Tariff Regulations and the percentage open cycle operation is also certified by NERPC in the REAs issued by it. Consequent upon the refusal of the respondents to pay the energy charges on account of open cycle operation of AGBPP to the petitioner, the present petition has been filed with the prayers as mentioned in para 1 above.

Reply of Respondent No. 1 (APDCL)

6. The respondent vide its reply affidavit dated 10.1.2013 has mainly submitted as under:

(a) The generating station had been operating on Open Cycle mode upto 1998-1999 and after that the station has been declared as Combined Cycle Project with the commissioning of Steam Turbine Units. The petitioner had never claimed any Energy charge on account of Open Cycle Operation of AGBPP till May, 2012.

(b) The Combine Cycle Operation of the power plant like AGBPP has multi-pronged advantages and it is also the duty of the petitioner to encourage Combined Cycle Operation of the plant.

(c) The petitioner has been allowed the Highest Station Heat Rate out of all the generators. In spite of the steps taken by the Commission, there appears to have no positive response from the petitioner either in terms of enhance generation, increase in efficiency or economic use of fuel and other resources.

(d) If the petitioner unilaterally runs the AGBPP in Open Cycle mode in its own interest, then the additional burden of fuel price on account of such operation cannot be passed on to the ultimate beneficiaries.

(e) There was no demand/decision in REB/RLDC/SLDC Forum to operate AGBPP in Open Cycle Operation mode during the period 2004-09. The petitioner did not raise any bill on FPA on the ground of Open Cycle Operation of the station.

(f) There was no claim on FPA towards Open Cycle Operation of AGBPP during the period 2004-09. The tariff order of AGBPP for 2004-09 was issued by the Commission on 22.2.2008 and the same is replaced by subsequent tariff order for 2009-14. Therefore, the petitioner cannot claim any such dues which are beyond the period of more than 2 years in terms of Section 56(2) of the Electricity Act, 2003.

(g) The Regional Energy Accounts only shows the percentage of Open Cycle Operation of AGBPP for the purpose of information and not for commercial implication. The matter was never discussed in NERPC Forum nor the beneficiaries asked for Open Cycle Operation on any occasion till now. This may be ensured from NERPC secretariat. No bills on account of Open Cycle Operation were raised by the petitioner earlier. Therefore, the respondent has not entertained the bills raised by the petitioner on account of Open Cycle Operation.

(h) The project is also running on part load on an average of around 200 to 210 MW against the installed capacity of 291 MW, thereby depriving the respondent of about 80 to 90 MW on average basis. However, the respondent is paying the energy charged rate as per provisions of the 2009 Tariff Regulations, considering the fact that the project is a Combined Cycle Operation.



- (i) The petitioner completely neglects the operational efficiency and fuel economy of the plant. This is in violation of the provisions of Section 61 of the Electricity Act, 2003.

Rejoinder by Petitioner

7. The petitioner vide its rejoinder affidavit dated 18.2.2013 has mainly submitted as under:

(a) The order dated 22.2.2008 of the Commission does not mention that the Open Cycle Operation of the plant must necessarily be agreed to by all concerned in REB/LDC Forum as claimed by the respondent. Moreover, the monthly percentage Open Cycle Operation of the plant is certified by NERLDC through the monthly REAs.

(b) The argument of the respondent that AGBPP is put under Open Cycle Operation unilaterally is baseless since it was resorted to not as matter of choice but only due to compelling operational circumstance as detailed in the petition.

(c) The FPA bill was raised on account of variation of price and heat value of fuel which was further subjected to Monthly Operating Pattern Adjustment (MOPA).

(d) Since the petitioner has already raised all FPA bills on account of Open Cycle Operation during 2004-09, there is no intention to raise any further claims for dues pertaining to the period 2009-14. The reference to this period was made only for the purpose of illustration and justification for the present claim for 2009-14.

(e) It is only reasonable to assume that the Commission took into consideration all valid factors before fixing the NAPAF for the plant at 72% which translates to 210 MW (approx). Hence, the contention of the respondent that they are deprived of 80 to 90 MW on an average basis is baseless.

(f) The monthly percentage Open Cycle Operation for the period from April, 2012 to January, 2013 as illustrated clearly demonstrate that the petitioner has no intention of neglecting the aim and objective of converting the AGBPP to Combined Cycle mode from Open Cycle mode.

8. The Commission after hearing the matter on 19.2.2013 issued notice to NERPC and NERLDC and directed them to submit information on the following:

(a) The basis of certification on open cycle mode of operation for Assam Gas Based Power Station issued by NERPC.

(b) Following information shall be submitted by NERLDC:

(i) How the scheduling of power on open cycle mode was/is prepared. Whether the beneficiaries were/are notified of open cycle mode operation of the station?

(ii) Whether NEEPCO is revising their DC on open cycle from the 6th time block in a day?

9. In compliance to the above directions, NERPC vide its letter dated 11.3.2013 has submitted as under:



(a) NERPC used to indicate open cycle operation of AGBPP plant in terms of percentage in monthly REAs based on the available SEM readings. The duration /period of open cycle operation/generation is being calculated as under:

- (j) It is assumed that plant is in open cycle mode whenever reading of SEMs installed with steam turbine is zero (0) and there is some reading on either of the SEMs installed with the gas turbines for each module.
- (iii) For each module, when reading of SEM installed with steam turbine is not available, it is assumed that steam turbine is under shutdown or maintenance and the same is being treated as open cycle operation unless it is reported that the SEM is faulty.

10. NERLDC vide its letter dated 8.3.2013 has submitted as under:

- (a) Scheduling of AGBPP on open cycle mode was/is not being prepared by NERLDC as no declaration /revision of DC for open cycle operation was/is being provided to NERLDC by AGBPP. Same was confirmed by NEEPCO. Hence beneficiaries were/are not notified of open cycle operation.
- (b) NEEPCO is not declaring /revising DC on open cycle mode operation.

11. The petitioner vide its affidavit dated 3.4.2013 has made additional submissions as under:

- (a) The petitioner has no intention to run any machine under Open Cycle mode and it is not beneficial to the petitioner.
- (b) The format used by AGBPP, both for day ahead declaration of capacity and real time revision of DC effective from sixth time block is as per the format prescribed by NERLDC. As per this format, there is no scope for separately indicating the open cycle mode of operation. In the event of any forced outage of a steam turbine generating unit leading to partial or full open cycle operation of the connected gas turbine, the same is indicated as being the reason while declaring downward revision of DC as required by the format. The petitioner has furnished few sample copies of such revision of DC as required by the format. Thereafter, it is the incumbent upon NERLDC to intimate the status to the beneficiaries.
- (c) Planned shut down of Steam Turbine generating units for maintenance is discussed in advance at the OCC meeting of NERPC and given effect with the consent of all the beneficiaries as well as NERLDC through this forum where all of them are constituent members. Therefore, all beneficiaries are well aware of the shutdown of any Steam Turbine Generating Unit of AGBPP and by implication the connected gas turbine is on open cycle mode of operation during the period of shutdown.
- (d) Some of the beneficiaries of the petitioner other than the two respondents have been making payments against bills raised on account of open cycle operation of AGBPP.

12. The Commission after hearing the parties on 9.4.2013 admitted the petition. The respondent No.1, APDCL has filed additional reply and the petitioner has filed its rejoinder to the same.



13. The respondent No.1, APDCL in its additional reply vide affidavit dated 15.5.2013 has submitted that the monthly REAs prepared by NERPC shows that there is open cycle operation invariably in each and every month and from the minutes of the OCC meetings it is noticed that planned shutdown of the units are not taken in each and every month nor there was any grid disturbance in the system. It has also submitted that the quantum percentage month-wise open cycle operation does not have any relation whether there is planned shut down or not. It has further submitted that the open cycle operation was too high, particularly between the period from October, 2011 to June, 2012 on sustained basis though there was no planned shutdown except few grid disturbances. Accordingly, it has prayed that the reimbursement of bills on open cycle operation may not be allowed to the petitioner.

14. In response, the petitioner vide its affidavit dated 5.6.2013 has submitted that all beneficiaries including the respondent, APDCL had paid energy charges on account of open cycle operation of AGBPP throughout the tariff period 2004-09 on the basis of open cycle percentage mentioned in the REAs without any contest. It has submitted that the agenda placed by NERPC in the OCC meeting held on 26.3.2013 stating that the percentage open cycle generation of AGBPP mentioned in monthly REAs are only for information purpose and not for commercial purpose has actually been contested by the petitioner and copy of letter has been annexed. The petitioner has further submitted that the percentage open cycle is higher in a month if there are planned shutdowns of Steam Turbines or grid disturbances besides forced outages of Steam Turbine units. The petitioner has also pointed out that STG-I (Unit-IV) of AGBPP had been put under planned shutdown for major overhauling with effect from 1.9.2011 for 30 days under the supervision of BHEL, the OEM and as per suggestion of BHEL, the turbine rotor and few stationery parts had to be sent to BHEL works for repairing and dynamic balancing etc., It has also been submitted that repair works took much longer than expected and the STG came back to the grid on 27.7.2012. Accordingly, the petitioner has submitted that the planned shutdown got

prolonged due to unavoidable reasons, beyond the control of the petitioner. The petitioner has added that it has agreed in the OCC meeting held on 26.3.2013 to furnish data for declaration of DC or revision of DC henceforth in a new format if NERLDC feels so and modified the format accordingly.

15. The matter was finally heard on 11.6.2013 and the Commission reserved its order in the petition. Based on the submissions made by the parties and the documents available on record, we examine the case in the subsequent paragraphs.

Analysis and Decision

16. Regulation 30 of the 2009 Tariff Regulations provides that the methodology for scheduling and dispatch for the generating station shall be as specified in the Indian Electricity Grid Code (IEGC), as amended from time to time.

17. The Commission by letter dated 6.12.2012 directed the petitioner to submit clarification on the following:

- (a) Whether the open cycle capacity was declared on day ahead basis by the petitioner or revised from the 6th time block in any day.
- (b) Whether the available capacity was despatched in part / full by the beneficiaries on day ahead basis or on revising the declaration in any day.

18. In compliance with the above directions, the petitioner vide its affidavit dated 20.12.2012 has clarified as under:

- (i) Generally the advance declaration of ex-power plant MW capabilities foreseen for the next day is made as guided in the IEGC cl. no. 6.4.16. The block wise day ahead availability for AGBP was declared for the plant as a whole and no declaration or revision was made on open cycle capacity separately. In some occasions, revision was made on whole plant capacity to be effective from 6th time block depending on availability of gas or some other plant condition, prevailing at that time.
- (ii) The available capacity has been despatched in full by the beneficiaries.

19. Clause 16 of Regulation 6.4 of IEGC pertaining to Scheduling and Despatch Code provides as under:



"The ISGS shall make an advance declaration of ex-power plant MW and MWh capabilities foreseen for the next day, i.e., from 0000 hrs to 2400 hrs. During fuel shortage condition, in case of thermal stations, they may specify minimum MW, maximum MW, MWh capability and declaration of fuel shortage. The generating stations shall also declare the possible ramping up / ramping down in a block. In case of a gas turbine generating station or a combined cycle generating station, the generating station shall declare the capacity for units and modules on APM gas, RLNG and liquid fuel separately, and these shall be scheduled separately. "

20. It is clear from the above provision that the responsibility to declare capacity on day ahead basis for units and modules separately for gas turbine or a combined cycle generating station lies with such inter-state generating stations. It is evident from the submissions of NERLDC that the petitioner had neither declared the capacity in open cycle operation nor revised its available capacity in open cycle operation. In view of this, we are not in agreement with the submission of the petitioner that as per the format prescribed by NERLDC there is no scope for separately indicating the open cycle mode of operation.

21. Further, open cycle operation of the generating station is possible in following cases:

- (i) When Steam Turbine Island is under planned shutdown.
- (ii) When Steam Turbine goes under forced outage.
- (iii) At the time of start-up after planned or forced outage.

22. The beneficiaries would be aware of open cycle mode of operation of AGBPP in the event of any declaration of capacity during planned shutdown of Steam Turbine Island, as planned shutdown is decided in RPC forum. As such energy charges on open cycle mode should be allowed and paid by the beneficiaries in such cases. However, in case of Steam Turbine Island going into forced outage, the beneficiaries would not be in a position to know this if they are not specifically intimated through revision in Declared Capacity. In such case, the open cycle operation should not be certified by NERPC. It appears that NERPC has not followed this practice while certifying the open cycle mode of operation of AGBPP. In case of start-up after any shutdown (planned and forced), combined cycle mode of operation cannot take place unless Gas Turbines are operated in open cycle mode. In this event, the Energy Charges are required to be



paid by the beneficiaries as per certification of NERPC. However, Energy Charges on open cycle mode of operation under forced outage conditions of Steam Turbine Island may not be allowed as the beneficiaries were not in a position to decide on the despatch of power on the open cycle mode of operation. Keeping in view the operation of AGBPP in open cycle mode under the circumstances as discussed above, we are of the view that NERPC should be directed to revise Regional Energy Accounts (REA) for the period from 1.4.2009 to 31.7.2013. We order accordingly. The Energy Charge on open cycle operation for the above said period shall then be calculated based on the revised REA /Certification of NERPC and payments may be made by the respondents/beneficiaries accordingly.

23. Petition No. 257/MP/2012 is disposed of in terms of the above.

Sd/-
[M.Deena Dayalan]
Member

Sd/-
[V.S. Verma]
Member

