

# CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Petition No. 104/2000

**Coram:**

1. Shri D.P. Sinha, Member
2. Shri G.S. Rajamani, Member
3. Shri K.N. Sinha, Member

**In the matter of**

Maintenance of Grid Discipline and Compliance of direction of Regional Load Despatch Centre

**And in the matter of**

Eastern Regional Load Despatch Centre .... **Petitioner**

Vs

1. Bihar State Electricity Board
2. Damodar Valley Corporation
3. Grid Corporation of Orissa Ltd.
4. National Thermal Power Corporation Ltd.
5. National Hydroelectric Power Corporation Ltd.
6. West Bengal State Electricity Board
7. Dept. of Power, Govt, of Sikkim
8. Eastern Regional Electricity Board .... **Respondents**

The following were present:

1. Shri S.K. Sinha, Addl. GM, ERLDC
2. Shri S.K. Soonee, Dy. GM, ERLDC
3. Shri R.N. Sharma, ESE(Inter-state), BSEB
4. Shri Md. S. Mondal, CE, DVC
5. Shri R. B. Bal, CE, DVC
6. Shri T.K. Ghose, DVC
7. Shri R.K. Mehta, Advocate for GRIDCO
8. Shri B.N. Roy, GRIDCO
9. Shri N.C. Sahu, GRIDCO
10. Shri N.P. Singh, ED(OS), NTPC

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11. Shri Shyam Wadhera, ED, NTPC
12. Shri K.K. Garg, GM, NTPC
13. Shri M.S. Chawla, Dy. GM, NTPC
14. Shri Rajeshwar Datt, Dy. GM, NTPC
15. Ms. Alka Saigal, Mgr. (F), NTPC
16. Shri S. Raj, DGM(OP), NTPC
17. Shri N.C. Roy, CE, WBSEB
18. Shri P.C. Saha, WBSEB
19. Shri N.S. Chakraborti, SE, WBSEB

**ORDER (DATES OF HEARING  
28.6.2001 and 29.6.2001 AT KOLKATA)**

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Eastern Regional Load Despatch Centre, the petitioner herein filed this petition on 06.11.2000 praying for the following:

- (i) Farakka Super Thermal Power Project (FSTPP) belonging to respondent no. 4 be directed to declare the availability faithfully,
  
- (ii) Bihar State Electricity Board (BSEB), West Bengal State Electricity Board (WBSEB), Grid Corporation of Orissa (GRIDCO), Damodar Valley Corporation (DVC), and NTPC's power stations namely Farakka Super Thermal Power Project (FSTPP), Kahalgaon Super Thermal Power Project (KSTPP), Talcher Super Thermal Power Project (TSTPP) be directed to back down their generation during high frequency as per instructions of the petitioner,

(iii) BSEB, WBSEB, GRIDCO, DVC, FSTPP, KSTPP and TSTPP be directed to arrive on an agreed minimum technical level/minimum requisition level and issues related to start and stop, so as to streamline the scheduling procedure,

(iv) BSEB, WBSEB, GRIDCO, DVC, Power Department, Govt, of Sikkim, National Hydro Electric Power Corporation (NHPC) and FSTPP, KSTPP, TSTPP be directed to put maximum number of their machines on free governor mode and/or confirm their preparedness of their machines for free governor operations, otherwise the constituents concerned may seek explicit exemption from the Commission .

(v) Expedite introduction of Availability Based Tariff for central

generating stations in Eastern Region, (vi) Pass any other order as considered appropriate in the facts and circumstances of the case.

2. It has been stated that in Eastern Region frequency fluctuates everyday by more than 3 Hz, crossing 51.5 Hz on the higher side and 48.5 Hz on the lower side. The petitioner has enclosed a graph showing the maximum and minimum frequency and its variation from 1.4.1994 to 1.8.2000. These variations in grid frequency are not in conformity with clause 6.2(1), 7.4(4) and 7.4(8) of IEGC. In



view of the wide variations beyond the limits prescribed under IE Rules, the petitioner had issued instructions on 27.6.2000 and 11.7.2000, under Section 55(3) of the Electricity (Supply) Act, 1948 (hereinafter referred to as the 1948 Act) with a view to control high frequency. The petitioner has alleged that except Rangit Power Plant of NHPC, no other constituent has followed these instructions. The constituents, particularly BSEB, WBSEB, GRIDCO, DVC and NTPC have failed to follow these instructions issued by the petitioner for backing-down when frequency had gone beyond 51.5 Hz or they have not maximised their generation or restricted their drawal as per schedule in case of frequency falling below 48.5 Hz. It is further alleged that NTPC is declaring the full capacity of machines, whereas in real time it is unable to achieve/demonstrate the same even when the frequency is low during peak hours. This causes frequent changes of evening peak schedule of constituents and jeopardizes the operational planning. The respondents have not put their machines under free governor operation, which is helpful in stabilising frequency. The reliefs sought by the petitioner as noted in para 1 above are to be viewed in the above context. We propose to deal with the relief sought by the petitioner in the succeeding paragraphs.

### **AVAILABILITY DECLARATION**

3. The petitioner has alleged that respondent no. 4 who owns the FSTPP is declaring the full capacity of the machine whereas in real time it is unable to achieve/demonstrate the same even when frequency is low during peak hours,

and this causes changes of peak schedules of the constituents and jeopardizes the operational planning. The petitioner has placed on record a copy of letter dated 6.10.2000 written to NTPC wherein NTPC was advised to declare realistic generation availability of its stations of Eastern Region for better operational planning and scheduling. This averment has been supported by some of the respondent beneficiaries. NTPC in its reply has not specifically denied the allegation, but has averred that once the machine is connected to the grid, it is 100% available. 'Availability' has already been defined in paragraph 5 of schedule 1 to our order dated 4<sup>th</sup> January 2001 and we feel that no further clarifications are required on this issue. We do not propose to go into the issue raised on behalf of the petitioner. The Commission's order dated 4.1.2001 in Petition No. 2/99 elaborately deals with procedure for testing declared capacity as also the consequences of non-demonstration of capacity and its mis-declaration by the generating stations. In view of paras 5.8.9 and 5.8.10 of the order dated 4.1.2000, no further directions in this regard are necessary since action in such cases is required to be taken in accordance with the order dated 4.1.2000. In case of mis-declaration of capacity by any of the Central Generating Stations, the petitioner is at liberty to proceed in accordance with the order dated 4.1.2000, read with the Commission's order dated 15.12.2000 in Review Petition No. 13/2000. Certain SEBs and Central Generating Companies have filed appeals in various High Courts against the Commission's orders on Availability Based Tariff (ABT). We direct that pending the final decision on these appeals, RLDC shall carry out the testing of the Declared Availability as per our order dated 4<sup>th</sup> January 2000 and



circulate results of the test to all constituents and the ISGS concerned. In case of detection of mis-declaration, penalty provisions as contained in the aforesaid order shall be invoked after the decisions of the High Courts in which appeals are pending.

### **BACKING-DOWN OF GENERATION DURING HIGH FREQUENCY**

4. Para 6.2 (I) of the Indian Electricity Grid Code (IEGC) mandates that the regional constituents shall make all possible efforts to ensure that the grid frequency always remains within 49.0 - 50.5 Hz band. The Commission vide its order dated 17.8.2000 in Enquiry No. 1/2000 pertaining to grid disturbance in the Eastern Region on 25.7.2000, had directed that "the generating stations under the control of utilities are required to back down when necessary in times of high frequency as directed by RLDC" and " all SEBs shall voluntarily initiate such action as backing down generation during high frequency or shedding load in times of low frequency". Thus the provisions of IEGC and the orders of the Commission on this issue are explicit that with or without the instructions of the RLDC, the generating stations are required to back down generation when frequency is high and the beneficiaries shall shed load or increase their generation when frequency is low .

5. Clause (3) of Section 55 of the Electricity (Supply) Act, 1948 confers an authority on the petitioner to give such directions and exercise such supervision



and control as may be required for ensuring integrated grid operation and for achieving maximum economy and efficiency in the operation of the power system in the region under its control. The directions issued by the RLDC are mandatorily required to be complied with by every licensee, transmission licensee, Board, generating company, generating stations, etc as provided in clause (5) of Section 55 of the 1948 Act. In fact, clause (9) of section 55 of the 1948 Act provides for adjudication by CEA of reasonableness of the directions issued by RLDC. However, any person aggrieved by the directions of the Regional Load Despatch Centre has to comply with the direction before referring the dispute to the Authority. Therefore, law accords supremacy to the directions issued by the RLDC, the petitioner herein as the Eastern Region is concerned. That being the position, we fail to understand the reasons for non-compliance of the directions issued by the petitioner. We, therefore, hold that the constituents of the Eastern Region, including the Central Generating Stations operating in the region are bound by the directions of the petitioner on the question of maintenance of grid frequency at the prescribed level for ensuring integrated operation of the Eastern Regional Grid.

6. The petitioner has alleged that instructions issued by it on 27-6-2000 and 11-7-2000 have not been complied with by any of the respondents except Rangit power plant of NHPC. At the hearing, the representative of the BSEB (respondent no. 1) and GRIDCO (respondent no. 3) stated that they are now complying with the instructions issued by the petitioner. This was also confirmed by the petitioner.

In view of this, we do not propose to issue directions to BSEB and GRIDCO on this issue with the expectation that they will continue to comply the instructions including schedules issued by the petitioner. The respondents in their replies have not denied the wide frequency variation in the region as stated by the petitioner in its petition. The respondent no. 2 i.e. DVC in its reply has admitted that on occasions they may have departed from the instructions of backing down due to technical reasons. DVC has also averred that instructions issued by the petitioner on 27-6-2000 and 11-7-2000 need deliberation and further review in REB forum. Similarly, respondent no. 6 i.e. WBSEB in its reply has averred that it has tried its best to maintain drawl close to schedule but at the same time has admitted that this was not always possible. We heard Shri Md. S. Mondal, CE, for DVC and Shri N.S. Chakraborti, SE, for WBSEB. We were not satisfied with the explanation offered by these respondents to justify departure from the schedules. We were convinced that these respondents had not followed the provisions of IEGC or the Commission's order dated 17.8.2000. Therefore, at the hearing we had directed the representatives of these respondents to file their affidavits that they would follow the provisions of IEGC. The affidavits have been filed by these two respondents. On consideration of affidavit filed by DVC (respondent no. 2), suitable directions have already been issued by us to this respondent in our order dated 17.07.2001, in Petition No. 6/2001. We reiterate those directions so far as DVC is concerned. WBSEB, respondent no. 6 in its affidavit dated 30.6.2001 has stated that "it will always follow in letter and spirit, the provisions and procedures as contained in the Indian Electricity Grid Code". In view of the categorical

undertaking given by WBSEB to follow the provisions of the IEGC, we do not propose to carry this matter any further. We direct that WBSEB shall remain bound by the undertaking given by it on affidavit, otherwise it shall make itself liable for appropriate action in accordance with law for violation of IEGC as also for breach of the undertaking given to the Commission on affidavit.

7. In the light of analysis given by us in the preceding paras 4 and 5, the generating stations belonging to NTPC( respondent no.4) are also required to back down at high frequency, particularly when so directed by the petitioner in discharge of the statutory functions assigned to it under section 55 of the 1948 Act. We, therefore, direct accordingly.

8. The manner of preparation of daily drawal schedule by the petitioner was also considered by the Commission in Enquiry No.1/2000. In the order of 17.8.2000, it was made clear that the schedule prepared by the petitioner shall be binding on all concerned irrespective of whether or not they agree with the schedule so prepared by the petitioner. Therefore, all the players in the regional grid, be they the beneficiaries or the Central Generating Stations, are obliged to follow the schedule prepared by the petitioner. We reiterate those directions, if such reiteration is needed as a corollary of the direction prayed for at sub-para (b) of the prayer clause of the petition. Anyone found violating the schedule shall be dealt with in accordance with law. The petitioner is granted liberty to bring to the

notice of the Commission through appropriate petition, any violations of the directions contained in these paras.

9. We further direct the petitioner to file an affidavit latest by 15.12.2001, giving the frequency profile of the regional grid as also the drawal pattern and status of compliance of its instructions for the constituents of the Eastern Region for the period from 1.9.2001 to 30.11.2001.

#### **MINIMUM TECHNICAL LEVEL FOR BACKING DOWN**

10. The petitioner has stated that a decision was taken at EREB forum that all 210 MW/500 MW units shall back down up to 60% of their installed capacity when so required. The petitioner has also referred to the decision taken in the meeting taken by Chairman, CEA on 16.12.1997 that at 51 Hz all the thermal power stations would back down to 60-70% of their capacity without waiting for instructions from ERLDC. Despite this decision, NTPC is not agreeable to back down its generating units below 70% of the installed capacity on the ground that it adversely affects the safe operation of the boiler. The petitioner has placed on record some documents in support of this averment made in the petition. NTPC in its reply has admitted that the issue of minimum technical load limits of its units operating in Eastern Region was debated upon a number of times at different fora, but it agreed to the lower limit of 70%. The petitioner has sought a direction to NTPC to arrive at an agreed minimum technical level for the purpose of backing down. We are of the opinion that the minimum technical level is a characteristic

associated with a generating unit and not the power station. Since the declaration of the available capacity as well as scheduling by RLDC is done for the station as a whole, it is the responsibility of the ISGS concerned to commit the units in a feasible and optimal manner. On certain occasions, if there is practical difficulty in committing the generating units as per schedule, ERLDC, in consultation with ISGS concerned shall iron out the schedule in accordance with para 7.5(7) of the IEGC. In order to fulfill its responsibility under para 7.5(7) of IEGC, ERLDC may call for the relevant information from ISGS.

#### **MINIMUM REQUISITION LEVEL**

11. The petitioner has stated that some of the constituents are requisitioning power only during peak hours while some constituents like GRIDCO and WBSEB have not requisitioned power from KSTPP on round the clock basis. This, according to the petitioner is causing difficulties in scheduling. Therefore, it has prayed for an agreement to requisition of minimum level from all central generating stations in the interest of streamlining of scheduling procedure. The procedure for preparation of drawal schedule is decided by the Commission in para 7 (vi) of its order dated 17.8.2000 *ibid*. We feel that so long as this procedure is adhered to by all concerned, i.e. the Central Generators as also the constituents, no further directions on this aspect are needed. We hope that with the implementation of ABT, the difficulty pointed out by the petitioner will not survive since the fixed charges are recoverable based on capacity allocation and not on the basis of drawal and under ABT regime, the beneficiaries are expected

to be more judicial in requisitioning power from the Central Generating Stations. In this context, we direct Member Secretary of the REBs to prepare and circulate the accounts for UI charges to all the constituents from the date of implementation of ABT in the region concerned as contained in our order dated 15<sup>th</sup> December 2000. We hope that this would keep the constituents alive to payment obligations in case various High Courts in which appeals are pending against ABT order, uphold implementation of ABT from the date notified by the Commission. This in turn shall result in pragmatic schedules and grid discipline pending decision of the High Courts.

### **FREE GOVERNOR OPERATION**

12. The petitioner has sought a further direction to the generators in the Eastern Region to put their generating stations on free governor mode so that the frequency gets stabilised and it would be possible to operate the generating units on free governor mode without over stressing or damaging them. DVC in its reply dated 4.12.2000 has stated that it had tried free governor operation on one unit at Mejia Power Station earlier, but due to wide fluctuation of frequency the governor had to be locked. DVC has also stated that it has sought help of CEA and taken up matter with M/S BHEL. It has further stated that it would shortly submit application for exemption from relevant IEGC provisions to the Commission. However, no such application has been submitted on behalf of DVC till date. NTPC has also contended that in the first instance steps are required to be taken to arrest wide variation in the grid frequency by way of equitable scheduling and

backing down covering all the generators connected to the grid and thereafter, the restoration of free governors be given a fair trial.

13. We may take notice of the fact that the Commission in its order of 30-10-99 in Petition No. 1/99 had granted liberty to any particular generating station to approach the Commission for exemption from the provisions regarding free governor for valid reasons. None of the respondents, except WBSEB, approached the Commission seeking an exemption for the generating stations from free governor. The application of WBSEB has already been rejected. It is interesting to note that NTPC had opposed the application of WBSEB and now it is inventing alibis to avoid its responsibility on this matter.

14. Para 1.6 of IEGC provides that thermal units with capacity of 200 MW and above shall be put on free governor with effect from the date of implementation of commercial mechanism in the region concerned. This direction also applied to all reservoir based hydro stations of capacity 50 MW and above. The matter was further considered during enquiry proceedings (Inquiry No.1/2001) pertaining to grid failure in Northern Region on 2.1.2001. The Commission in its order dated 15.1.2001 has directed that the operation of free governor shall be restored in generating stations of 500 MW capacity within one month of that order and on generating stations with generating capacity of 200 MW to 500 MW within three months of the order. In view of the earlier directions on the subject, no further direction on the petitioner's prayer for restoration of free governor mode are considered necessary. The Commission may initiate separately appropriate

proceedings against the generating stations for non-compliance of the Commission's directions on restoration of free governor.

**IMPLEMENTATION OF AVAILABILITY BASED TARIFF IN EASTERN REGION**

15. The petitioner has prayed for expeditious introduction of ABT in the region. In accordance with the Commission's order dated 15.12.2000 in Review Petition No. 13/2000, ABT in Eastern Region stands implemented w.e.f. 1.5.2001, subject to direction of various High Courts in which appeals have been filed by some of the beneficiaries/central generators against the Commission's ABT order. Therefore, in our opinion, this prayer has become redundant.


16. Non-compliance of directions of the Commission are punishable under Section 44 and 45 read with Section 47 of the Electricity Regulatory Commissions Act, 1998. In case any default in compliance of the directions contained in this order comes to the notice of the Commission, the utilities concerned shall make themselves liable for action under the above provisions of the ERC Act. In view of this, we further direct that a copy of this order be sent to the Chief Executives, etc. (by name) of the respondents for their personal attention and appropriate action.

17. This petition stands disposed of in the light of

>ve directions.

**JK.N. Sinha)**  
**Member**

**(G.S. Rajamani)**  
**Member**

  
**(D.P. S**  
**inha)**  
**Member**

New Delhi dated the 6<sup>th</sup> September, 2001.



