

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. **Shri Ashok Basu, Chairman**
2. **Shri K.N.Sinha, Member**

Petition No.66/2003

In the matter of

Free Governor mode of operation on all generating units installed at Ramagundam Super Thermal Power Station (RSTPS) of NTPC

And in the matter of

Southern Regional Load Despatch Centre
Vs
National Thermal Power Corporation Ltd (NTPC)

... Petitioner

...Respondent

The following were present

1. Shri S.K. Soonee, SRLDC
2. Shri L.K. Kanungo, SRLDC
3. Shri V.B.K. Jain, NTPC
4. Shri M.K.V Rama Rao, NTPC
5. Shri S.S. Medirattta, NTPC
6. Shri P.D.N.V. Prasad, NTPC
7. Shri A.K. Juneja, DGM (Comml), NTPC
8. Shri A.K. Garg, DGM (OS), NTPC
9. Shri R. Bhagat, DGM (Comml), NTPC
10. Shri Sankar Saran, SM, NTPC
11. Shri Manoj Saxena, NTPC
12. Shri D.S. Sharma, NTPC
13. Shri S.N. Banerjee, NTPC
14. Shri R.P. Gupta, NTPC
15. Shri A.M. Misra, NTPC
16. Shri M.S. Chawla, AGM (Comml), NTPC
17. Shri S.N. Goel, NTPC
18. Shri Tejwant Singh, Sr. XEN, BBMB
19. Shri Alok Roy, NRLDC
20. Shri V.K. Agarwal, AGM, NRLDC
21. Shri S.R. Narasimhan, Chief Mgr, NRLDC
22. Shri Vivek Pandey, Sr. Engineer, NRLDC
23. Shri V. Mitttal, GM(SO), CTU
24. Shri P. Pentayya, DGM (OS), WRLDC

- 25. Shri R.G. Yadav, PGCIL
- 26. Shri A. Roy, PGCIL
- 27. Shri Sunil Agrawal, PGCIL
- 28. Shri S.K. Banerjee, ERLDC

ORDER
(DATE OF HEARING 4.12.2003)

The petitioner has pointed out that the respondent has failed to comply with the provisions of IEGC, in particular, Clauses 1.6, 4.8 (c) and 4.8(d), 6.2(e) and 6.2(f) as also the Commission's order dated 30.10.1999 in Petition No.1/1999, so far as the operation of the generating units in Free Governor Mode is concerned. Accordingly, it has made the following prayers in the petition:

- "(a) To direct the respondent to faithfully follow the provisions of IEGC (Clause 1.6, 4.8(c), 4.8(d), 6.2(e) & 6.2(f) and relevant CERC Orders.
- (b) To direct the respondent to put the Generating Units at Ramagundam Super Thermal Power Station in Free Governor Mode of Operation.
- (c) To disallow a component of fixed charges as a deterrent for not participating in Free Governor Mode of Operation.
- (d) To pass such further order or orders as may be deemed proper in the circumstances of the case."

2. The Commission in its order dated 30.10.1999 in Petition No.1/1999 had directed as under:

".....we direct that to begin with the stipulation regarding free governor shall apply to thermal units with a capacity of 200 MW and above, with immediate effect. This condition will also apply to all reservoir based hydro stations. For N.E. region, this condition will apply to units of 10 MW capacity and above. Keeping in view the time required to activate free governors, CTU may separately announce the time limit by which all other units should put free governors in

action. We also grant liberty to any particular unit to approach the Commission to get exempted from the provisions regarding free governor for valid reasons. As regards the plea of Nuclear Power Corporation to provide a separate dispensation in view of safety considerations and special characteristics of Nuclear Plants, we have considered the matter and it is appropriate that Nuclear Units be permitted to continue operating in `turbine follow reactor' mode. Since Nuclear capacity is small compared to regional capacity, such special dispensation will not make any significant difference. **CTU is directed to accordingly modify clause 4.8.c so that (a) thermal generating units of 200 MW and above (10 MW and above for N.E. region) and reservoir based hydro stations need only to be covered by this clause immediately; (b) for all other units CTU may separately announce time limits for putting free governor in action.** As regards suggestion of substituting the words "always in operation" by the words "normally in operation", keeping in view the purpose of this provision and to get the advantage of governor action for frequency control, the words `always' is more appropriate than the words `normally in operation.' "

3. FGMO is a defense mechanism against grid disturbances and is a standard practice worldwide. Though the manual control through resetting of speed set point is also important but in actual practice a very fast response is impossible to achieve with human intervention. This has been clearly brought out by SRLDC during their presentation that FGMO has smoothed the frequency curve and sharp frequency fluctuations are mitigated to a large extent under FGMO. As critical mass is vital to the successful implementation of FGMO and it is required that all major generating units should be on FGMO. Partial response, blocked governors in some of the units, increase undue strain on the units, which are sincerely put on FGMO because they absorb the load fluctuations. If more number of generating units are on FGMO, then a load variations are shared by all the units proportionally and the units are not stressed. It has also been shown that under FGMO, time required for restoring the grid operating conditions gets substantially reduced.

4. In accordance with Clause 1.6 of IEGC, the date of implementation of Free Governor Mode Operation (FGMO) on all thermal generating units of installed capacity of 200 MW and

above and reservoir based hydro units of installed capacity of 50 MW and above in all regions except North-Eastern Region, was linked with the implementation of commercial mechanism in the respective region. So far as North-Eastern Region is concerned, it provides that all thermal and reservoir based hydro generating stations of installed capacity of 10 MW and above in the Region were to be brought under FGMO from the date of implementation of commercial mechanism in that region. The commercial mechanism, which is also described as Availability Based Tariff (ABT) has been implemented in all the five regions from the dates indicated below:

- (a) Southern Region - 1.1.2003
- (b) Eastern Region - 1.4.2003
- (c) Northern Region - 1.12.2002
- (d) Western Region - 1.7.2002
- (e) North-Eastern Region - 1.11.2003

5. Accordingly, in accordance with Clause 1.6 of IEGC, by now FGMO should have been implemented in all the regions, excluding the North-Eastern Region where ABT has come into effect only recently.

6. It has been stated by the petitioner that in a meeting of Southern Regional Electricity Board held on 5.7.2003, on which the respondent was duly represented, it was agreed by the constituents/ISGS to put their machines on FGMO with effect from 00:00 hrs of 1.8.2003. According to the petitioner, the respondent has failed to implement the decision, unanimously arrived at and it had not put its machines on FGMO. The petitioner has placed on record the correspondence exchanged with the respondent on the subject. Accordingly, the petitioner

has sought the directions reproduced in para 1 above. On consideration of the allegations made in the petition, while issuing notice to the respondent, we had considered it appropriate to issue notice to the Central Transmission Utility (CTU) as well to file an appropriate affidavit apprising the Commission of the status regarding operation of the generating units in all the regions within the country on Free Governor Mode.

7. An affidavit in reply has been filed on behalf of the respondent. Similarly, an affidavit has also been filed on behalf of the Central Transmission Utility. The respondent has stated that on account of operating of its machines in Free Governor Mode, it stands to lose. It has been stated, based on a data for the period from 10.11.2003 to 23.11.2003 that Ramagundam Super Thermal Power Station had incurred negative UI of the order of Rs.7.33 lakh and has lost another Rs.17 lakh towards fuel cost, not recoverable from the constituents of Southern Region, when the generating units were put on FGMO. The respondent has also narrated certain other operational, technical and commercial difficulties associated with operating the machines in Free Governor Mode. Nevertheless, it has been stated that the generating units at Ramagundam STPS have already been put on FGMO; units 1, 2, 3 and 5 were put on FGMO one by one by 19.9.2003 and Unit 6 on 11.11.2003. The affidavit is silent so far as the unit 4 is concerned. Shri M.V.K. Rama Rao, General Manager, Ramagundam STPS, NTPC informed that unit 4 was under forced outage and had been restored two days ago. He submitted that unit 4 would also be put on FGMO immediately. He gave us an undertaking that in future also all the machines would be kept on FGMO and the provisions of IEGC on the subject would be strictly adhered to. In view of this undertaking, no further directions on prayers extracted at para 1 (a) and (b) are necessary. There has been non-compliance of the Commission's directions and Clause 1.6 of IEGC by the respondent and it has accordingly

made itself liable for a penalty in accordance with law. However, the question of levy of penalty is being kept open for the time being as we will be observing the conduct of the respondent for some time before taking a final view on the matter. We, therefore, direct that an affidavit on the compliance of the provisions of IEGC on FGMO by the respondent shall be filed by the petitioner by 31.1.2004 with advance copy to the respondent. A view on the levy of penalty will be taken by the Commission in the light of the affidavit to be filed by the petitioner.

8. The affidavit filed on behalf of the CTU is revealing as it speaks of glaring instances of non-compliance of IEGC by the Central as well as the state utilities. According to the affidavit, in a meeting of the constituents of Western Region held on 6.5.2003, it was decided to implement FGMO on units of capacity of 200 MW and above with effect from 19.5.2003. In accordance with this decision, machines with total capacity of 16480 MW were agreed to be put on FGMO. However, machines with a total capacity of 6470 MW only were actually on FGMO on 21.11.2003. In Northern Region too, the constituents/ISGS had agreed to put approximately 12000 MW capacity on Free Governor Mode with effect from 7.10.2003. However, capacity of 7010 MW was actually on FGMO on 21.11.2003. The exact status of machines actually under FGMO in Eastern Region is not indicated in the affidavit. It is, however, stated that Member Secretary, EREB vide letter dated 11.11.2003 had communicated to all concerned that machines with a total capacity of 8740 MW were to be put on FGMO on 20.11.2003. So far as North-Eastern Region is concerned, it has been stated that FGMO is not yet implemented in the region because ABT has been implemented in the region only with effect from 1.11.2003.

9. At the hearing, Officers incharge of Northern, Western and Eastern Regional Load Despatch Centres, who were present on behalf of the Central Transmission Utility submitted that NTPC had been defaulting in a big way so far as the FGMO of the machines is concerned. It was submitted that either the machines were not put on FGMO or were initially put but subsequently withdrawn. We consider the later act to be more serious. Shri V.B.K. Jain, GM, NTPC submitted that in view of the difficulties pointed out in the affidavit filed on behalf of the respondent in the present petition, it was not possible to operate the machines on Free Governor Mode. We noted the submission made on behalf of NTPC with great concern as it amounts to clear defiance of the Commission's order and the provisions of IEGC which are binding on all concerned, including NTPC. These directions have to be complied with, otherwise the utilities concerned and the persons responsible for non-compliance make themselves liable for penalty in accordance with law. In case of any difficulties in compliance with the directions, it is incumbent upon the person concerned to bring the position to the notice of the Commission for appropriate direction. No such difficulty has been brought to the notice of the Commission, except through the affidavit-in-reply filed in the present petition. When this position in law was brought to the notice of Shri Jain, he undertook to put the generating machines under FGMO immediately and to file an affidavit to that effect. He also stated that the difficulties, if any, in implementation of FGMO would be brought to the notice of the Commission through appropriate petition for suitable directions. Let the affidavit be filed on behalf of NTPC by 31.1.2004. The affidavit to be filed should be elaborate, also indicating the date on which a particular generating unit was put on FGMO.

10. On review of the status of implementation of FGMO, we feel that the position needs to be monitored and accordingly we decided to expand the scope of the present petition. The

Central Transmission Utility is responsible for coordinating the implementation of FGMO. Therefore, the Central Transmission Utility is directed to file an affidavit also by 31.1.2004, covering the following aspects:

- (a) Statement giving break-up of all the units identified for putting under FGMO, in the first instance, along with their ownership and status of implementation, that is, partial or full.
- (b) Statement, unit-wise and ownership-wise of units which were brought on FGMO but were withdrawn subsequently by the generator, and
- (c) A scheme for watching and monitoring of continuity on FGMO on regular basis.

11. If necessary, the Central Transmission Utility may organise meetings with the constituents and NTPC to settle the matter of putting the machines on FGMO and report the details through the affidavit already directed to be filed. A copy of the affidavit to be so filed shall be sent in advance to NTPC.

12. The Central Transmission Utility is further directed to finalise the programme for implementation of FGMO in North-Eastern Region and the thermal and hydro units not covered by FGMO under Clause 1.6 of IEGC and apprise the Commission of the progress through the affidavit to be filed before the next date of hearing.

13. List this petition on 24.2.2004.

**Sd/-
(K.N. SINHA)
MEMBER**

**Sd/-
(ASHOK BASU)
CHAIRMAN**

New Delhi dated the 10th December, 2003