

CENTRAL ELECTRICITY REGULATORY COMMISSION
Core 3, 6th Floor, Scope Complex, Lodi Road, New Delhi
(Tele No. 4364911 FAX No. 4360010)

Enquiry No.1/2000

Present

1. Shri S.L. Rao, Chairman
2. Shri D.P. Sinha, Member
3. Shri G.S. Rajamani, Member
4. Shri A.R. Ramanathan, Member

In the matter of

Enquiry into the Grid Disturbance on 25th July, 2000 in the Eastern Region

Following were present :-

1. Shri B. Bhushan, Dir(Opns.). PGCIL
2. Shri S.K. Sinha, AGM, ERLDC, PGCIL
3. Shri R.N. Trivedi, CE Tr(O&M), BSEB&TVNL
4. Shri S.P. Ghosh, Director(Commercial), GRIDCO
5. Shri B. Sengupta, Dy CE(CID), WBSEB
6. Shri H. Chatterjee, CE(CP&ED), WBSEB
7. Shri K.N. Mukherji, SE(CP&ED), WBSEB
8. Shri S.P. Datta, GM, Kolaghat TPS, WBPDC
9. Shri M. Padmanabhan, CGM, Coal India Ltd
10. Shri R.K. Sharma, ED(Comm.), NHPC Ltd
11. Shri T.N.L. Agrawal, Director(Tech.), DVC
12. Shri P.K. Basu, ED(Gen), CESC Ltd.
13. Shri B.K. Mishra, MS, EREB
14. Shri S. Chakrabarty, Sr.Dy. Dir(P), SAIL
15. Shri R. Chakrabarty, ED(P&E), SAIL
16. Shri S.K. Soonee, DGM, ERLDC
17. Shri B.N. Ojha, Director(Op.), NTPC
18. Shri N.P. Singh, ED(ER), NTPC
19. Shri S.R. Yadav, AGM(OS), NTPC
20. Shri R. Mitra, CE, EDER
21. Shri J.N. Lal, Sr.Divn.Engr(TRD), EDER

ORDER
(DATE OF HEARING : 17.8.2000)

An enquiry was initiated by the Commission under Section 13(c) of the ERC Act 1998 read with Regulation 75 of the CERC (Conduct of Business) Regulations 1999 on receipt of report dated 27th July, 2000 from CTU regarding collapse of the grid of the Eastern Region and the North-Eastern Region on 25.7.2000. The proceeding was attended by the SEBs, etc. in the Eastern Region as well as the bulk users like Coal India, SAIL and Railways.

2. The scope of the present enquiry is limited to examining the role of the CTU, RLDC and the constituents of the grid in complying with the IEGC in the grid operation leading to grid collapse. At the hearing, we have been informed that a Technical Committee has been set up by the CEA to enquire into the grid collapse. The directions contained herein shall not conflict in any manner the decision of the CEA on technical matters relating to grid operation.

3. At the outset the Commission expressed its deep distress at the widening frequency range in the Eastern Region which is indicative of the growing indiscipline and unwillingness of all concerned in the region to behave in a manner which protects the integrity and security of the grid. The growing indiscipline may cause further such grid collapses of this kind, if not checked. In exercise of its powers under Section 13(c) of the ERC Act 1998, the Commission is determined to do everything in its power to control this indiscipline so as to avoid recurrence of such episodes. Further, with Availability Based Tariff mechanism coming into force it is expected to improve further discipline and reduce the frequency variation, bringing it closer to the accepted norms of 50 Hz. Currently, the ABT order is stayed on a Review Petition from NTPC.

4. The Commission noted with concern the behaviour of important constituents of the EREB in particular, the WBSEB and the DVC. In this

connection the Report of CTU dated 27th July 2000 stating that “while Farakka STPS had declared an Ex-bus availability of 1260 MW for 25.7.2000, they were able to supply only 1105 MW”, is significant. It is stated that this had been going on for some time.

5. The CTU has been entrusted with certain specific functions under Section 27A of the Electricity Act 1910 and Section 55 of the Electricity (Supply) Act 1948. On a combined reading of these two provisions in the context of the deletion of the responsibility of REBs under the earlier law for ensuring integrated operation of the constituent system in the region, we have already come to the conclusion vide Chapter 3 of our IEGC Order dated 30.10.1999 titled ‘Organisational Issues’ that the CTU has a responsibility for the integrated operation of the power system in the regions. This has also been tacitly accepted by the CTU as would be evident from the various provisions of the Grid Code drafted by the CTU itself. In the circumstances we are distressed to note the argument on behalf of the CTU that it has no authority to deal with the generating stations which are part of the regional power system. We are also perplexed to hear views that reports of RLDCs need not be sent to CTU for necessary action by it.

6. The Commission would like to record their appreciation for the attempts made by ERLDC in difficult circumstances to discipline the grid and the warning about the impending grid collapse.

7. After hearing all the parties, the Commission orders as follows:

- (i) The Central Transmission Utility is responsible for the supervision and control of ISTS and for the proper functioning of the RLDCs and as such shall take such necessary steps as are required, and give such guidance as is necessary to RLDCs, so as to avoid any possibility of grid collapse in future. This is a responsibility at the

national level and concerns all RLDCs, as is clear from our IEGC order dated 30.10.1999.

- (ii) DVC shall closely monitor its generating stations and particularly those at Maithon and Panchet which apparently were slow in restoration in the recent episode. The generating stations under the control of the utilities are required to back down when necessary, in times of high frequency as directed by RLDC. This applies to all utilities including DVC and WBSEB.
- (iii) It is expected that all SEBs shall voluntarily initiate such actions as backing down in times of high frequency or shed load in times of low frequency. Any direction of RLDC in this regard shall be complied with failing which the legal consequences under Section 55 of the Electricity (Supply) Act, 1948 shall follow.
- (iv) It was reported that NTPC stations at Farakka, Kahalgaon and Talcher were not delivering adequate power at times of peak demand. It was also reported that they were backing down only to a limited extent when somewhat more backing down was possible at times of high frequency, up to the point where they would not require extra oil support, and as recommended by the CEA recently. NTPC and its Eastern Regional Stations are directed to strictly adhere to the directions of RLDC with liberty to challenge subsequently if the directions are unreasonable in accordance with law. The Commission may consider the possibility of disallowing variable charges for excess generation above 50.5 Hz.
- (v) The Commission was surprised to find that among the Electricity Boards, under frequency relays had, in many cases, either not been installed at all, or had been disconnected, or were in a state of dis-

repair. This is contrary to the provisions of IEGC approved by the Commission and issued by the CTU in December 1999. We direct the RLDC to prepare a statement showing the present status of such relays in sub-stations of each SEB, and further direct all the SEBs to resume immediately operation of under frequency relays where they are disconnected, and to repair them to a state of functioning if they are in dis-repair. This direction shall be complied with within two weeks and compliance shall be reported by CTU to the Commission soon thereafter. The frequency settings for such relays will be as decided by the REB. RLDC shall monitor the operation of the under frequency relays and report every month to the CTU, who shall keep the Commission informed. Further, REB shall prepare a plan for the new under frequency relays to be installed in various sub-stations of the SEBs in compliance with para 6.2(m) of IEGC at an emergency meeting within one month and shall install these relays within 6 months. This plan shall be communicated to the CTU who shall ensure its implementation. CTU shall, as directed in the IEGC Order, bring any violations in this regard to the notice of the Commission. These violations are liable to be treated as violations of this order of the Commission and those responsible for the violations are liable to be proceeded against under the ERC Act. SEBs are also directed that pending the restoration/installation of under frequency relays, their stations must ensure manual load shedding at such sub-station and a plan must be drawn up for this purpose which must be given to the RLDC. RLDC in turn shall relate the plan to the required load on each day so that it can identify those who are not complying with the schedule.

- (vi) As far as schedules are concerned, the Commission was surprised that they were not treated with seriousness by any of the

constituents. The Commission now directs that the daily schedule shall be finally prepared by the ERLDC based on the inputs of the constituents. This will be binding on all constituents irrespective of whether they agree with the schedule given by the ERLDC or not. For this purpose the following Time Schedule shall be followed:

10 AM	--	ISGS gives Station-wise availability for next day to RLDC.
11 AM	--	RLDC to inform beneficiaries their entitlement.
3 PM	--	SLDC to advise RLDC their drawal schedule.
5 PM	--	RLDC to convey ISGS their despatch schedule for the next day and net drawal schedule to the beneficiaries.
10 PM	--	SLDC/ISGS to inform any modifications to RLDC
11 PM	--	RLDC to convey final schedules to all ISGS and beneficiaries.

It is in the interest of all constituents to make workable schedules which will not jeopardise the integrity of the grid and submit to the RLDC in time. Every violation of the schedule will be recorded by the RLDC and conveyed to the concerned constituents and reported to the CTU on a weekly basis. The CTU shall analyse the violations for their extent as well as intensity and report them with suggestions for penalties to the Commission every month.

- (vii) It was noted by the Commission that there was a substantial loss because of the wide range of frequency variation especially to large electricity consumers like Coal India, SAIL, Railways, etc. It is for these users to estimate their losses and take such recourse as is available to them within the parameters of law.

- (viii) It was noted that the communications facilities between the ERLDC and the NERLDC are not adequate and the Commission directs the CTU to ensure that this is corrected without delay. Similarly CTU must ensure proper functioning of the communication facilities in the rest of the region. A compliance report on this aspect shall be submitted by CTU to CERC by mid September, 2000.
- (ix) The Commission noted that on the day of disturbance general instructions were issued by ERLDC to all the constituents for taking corrective action. As non compliance is difficult to establish in case of such general instructions, the Commission directs that whenever required RLDC should issue specific instructions to particular utility with the quantum of load shedding, backing down, etc. to be carried out.

8. The above directions shall be duly complied of by all concerned. In view of the seriousness of the situation, strict enforcement of the above directions shall be pursued, as directed.

Sd/-
(A.R. Ramanathan)
Member

Sd/-
(G.S. Rajamani)
Member

Sd/-
(D.P. Sinha)
Member

Sd/-
(S.L. Rao)
Chairman

New Delhi dated the 17th August, 2000.