

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Coram

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

Petition No.107/2000

In the matter of

Reduction of over-drawals from the Grid below 49 Hz and compliance of direction of Western Regional Load Despatch Centre, Mumbai.

And in the matter of

Western Regional Load Despatch Centre

Petitioner

VS

1. Madhya Pradesh Electricity Board
2. Gujarat Electricity Board & others

Respondents

The following were present:

1. Shri K.K. Das, GM(SO), Powergrid
2. Shri A.Roy, Addl.GM.WRLDC, Powergrid
3. Shri S. Ganguly, WRLDC, Powergrid
4. Shri A.D. Palamwar, MSEB
5. Shri S.G. Bakshi, CE, MSEB
6. Shri G.M. Patil, MSEB
7. Shri V.L. Sonavane, MSEB
8. Shri C.H. Verma, MSEB
9. Shri A.K. Pandhye, MSEB
10. Shri Satish Agnihotri, Advocate for MPEB
11. Shri S.P. Degwekar, SE (Retd.), MPEB
12. Shri Surya Bali, MPEB
13. Shri P.S. Dubey, MPEB
14. Shri D.K. Shrivastava, EE, MPEB
15. Shri A.A. Jose, GEB.
16. Shri V.H.Ghalani, GEB

**ORDER (DATE OF HEARING 20-07-2001 AT
MUMBAI)**

This petition has been filed by the petitioner, Western Regional Load Despatch Centre (WRLDC) on 8th November, 2000, seeking directions to the respondents in particular respondents 1&2:

- (i) to adhere to the directions issued by the petitioner under Section 55 of the Electricity (Supply) Act, 1948.
- (ii) to faithfully adhere to the schedules issued by the petitioner and not to withdraw the measures taken to reduce drawal from the grid as long as the frequency remains at a low level,
- (iii) to adhere to the decisions taken at various fora of WREB to maintain the grid parameters within desirable limits at all times,
- (iv) to implement adequate manual load shedding whenever frequency drops below 49 Hz.
- (v) to faithfully adhere to the connection of AUFLS as agreed at 111th WREB meeting,
- (vi) to adhere to the provisions of IEGC and
- (vii) to expedite introduction of Availability Based Tariff in the Western Region.

2. The petitioner has submitted that Western Regional Grid had been experiencing low frequency conditions since August 2000, on account of wide gap between the demand and supply of power. The issue of maintaining grid

frequency above 49.0 Hz. was discussed in the 111 , 112 and 113 meetings of WREB held in September, 1999, February 2000 and May 2000 respectively wherein it was decided that all constituents would resort to proper load shedding where necessary, to maintain the system frequency above 49.0 Hz. It was also decided that Under Frequency Relays should be restored to operate at agreed frequency levels. In the 294th OCC meeting held on 10-8-2000, the petitioner circulated hourly load shedding schedule for each constituent in order to maintain frequency above 49 Hz and it was also agreed that:

- (i) Generation will be maximised from all sources.
- (ii) Drawal will be restricted to scheduled share.

3. In the monthly meeting of OCC held on 12th September, 2000, the matter regarding over-drawal by the constituents and consequent low frequency operation in the grid was again discussed, particularly with reference to continuous overdrawal by the respondent No.2, Gujarat Electricity Board (GEB), of the order of 400 to 800 MW under low frequency conditions and, therefore, GEB was asked to resort to additional load shedding to improve the operating frequency above 49 Hz.

4. The petitioner also requested all the constituents of Western Region to co-operate in maintaining proper grid frequency by:-

(i) Maximising generation from all resources whenever frequency goes below 49 Hz. (ii) Expediting synchronization of thermal units which were under forced outage, (iii) Restricting drawal to schedule, (iv) Implementing manual load shedding whenever frequency goes below 49.0 Hz. (v) Keeping all under frequency relays in operation as per scheme approved in the 111th meeting of WREB.

5. The petitioner has alleged that constituents of Western Region, particularly the respondent No.1, Madhya Pradesh Electricity Board (MPEB), and the respondent No.2, Gujarat Electricity Board, continuously violated the relevant provisions of IEGC and the decisions arrived at in WREB, TCC and OCC meetings and continued over-drawing the power and thereby not maintaining frequency at the agreed level of 49 Hz., though the petitioner has been issuing relevant instructions to all the constituents. The petitioner has referred to specific instances of over-drawals from the grid under low frequency conditions by the respondent No.1 on 15th/16th/17th October 2000 in the range of 400-500 MW when frequency was as low as 47.9 Hz. and such low frequency operations continued unabated. The petitioner has also cited instances of violation by the respondent No.2 on 9th and 10th October 2000 when this respondent was continuously over-drawing from the grid to the extent of 300 to 500 MW at a very

low frequency. Despite messages issued by the petitioner to shed load, the over-drawal by the respondents 1&2 continued, thereby endangering the grid security.

6. According to the petitioner, the grid security measures were not adopted by the constituents of the region in general and the respondents No. 1&2 in particular. Therefore, petitioner has sought directions to the constituents of the Western Region as noted above.

7. The respondent No.1, MPEB, in its reply has stated that because of monsoon failure, power demand had increased considerably, which forced it to draw excess power over the schedule, in spite of all efforts made to maximise generation and regulate load by manual load shedding. It has stated that on 15.10.2000 & 16.10.2000 the generation availability of MPEB was considerably reduced due to increase in forced outages of its generating units. According to MPEB, under these compelling circumstances, it was not possible to adhere to the schedule prepared by the petitioner. It has been submitted further that low frequency operation of system is also due to unrealistic assessment of availability given by the Central Sector generator and inadequate time allowed by the petitioner to the respondents to implement the additional manual load-shedding. However, proper load regulatory measures have been implemented to maintain the grid frequency.

8. The respondent No.2, Gujarat Electricity Board in its reply has contended that other constituents of the region, particularly, MSEB had also been overdrawing under low frequency conditions. Hence it is not proper to attribute allegation of violation to the respondents No. 1&2 only. According to this respondent, low frequency conditions had been experienced since July, 2000 due to shortage of about 4500 MW in the Western Region. Therefore, it made all efforts to maintain the frequency above 49 Hz and the measures taken by it included maximisation of generation and purchase of surplus power from other regions and Enron, thereby providing sufficient load relief. It also resorted to manual load shedding to restrict over-drawals. It has been submitted that the load-shedding and operation of under frequency relays had resulted in violent incidents and, therefore, further load shedding was not possible. This respondent has stated that drawal was kept within schedule and over-drawals had been resorted to at frequency above 49.0 Hz only. However, under precarious situations due to the failure of monsoon in Gujarat and to cater to the rise in demand for power supply from the agricultural sector, it had to resort to over-drawals to the barest minimum extent and as a last resort only after exhausting all other avenues. It has been clarified further that the marginal over-drawal by this respondent cannot bring the frequency down to 48 Hz. In its reply, the respondent No.2 has attributed substantial loss of generation in the Western Region as the main reason for the continuous operation of grid at low frequency.

9. At the hearing, on 20-7-2001 Shri A. Roy, appearing for the petitioner made an elaborate presentation and highlighted instances of grid violations by the constituents of Western Region, in particular the respondents No. 1&2, thereby endangering the safety and security of the grid. The representatives of the respondents No.1&2 reiterated the averments made in their respective responses. However, it was admitted that because of unfavourable circumstances which have been referred to in the replies, they were forced to over-draw power from the grid. They have, however, assured to follow all the measures for maintaining grid discipline as per IEGC, the directions of the petitioner and the orders of the Commission issued from time to time.

10. On hearing the petitioner and the respondents and perusal of record, we were satisfied that the constituents of Western Region in general had not followed the provisions of IEGC and the directions of the petitioner. However, we find that the respondents No. 1&2 have been mainly responsible for the violations as they had on numerous occasions failed to comply with the directions of the petitioner, which is the declared apex body for integrated operation of the power system in the region. We, therefore, directed these respondents to file affidavits, that they shall abide by the provisions of IEGC. They have since filed the affidavits which have been taken on record.

11. In its affidavit dated 25-7-2001, the respondent No.1 has given an undertaking to abide by the regulation mentioned in the IEGC and also make all possible efforts to strictly adhere to the drawal schedule issued by the petitioner

at frequency below 49 Hz. The respondent No.2 also in its affidavit dated 24-7-2001 has undertaken to make all possible efforts to curtail over-drawals from Central Sector so as to bring drawal below or close to the scheduled drawal as per the schedule given by the petitioner whenever the frequency is below the lower limit of the frequency band (49.0 - 50.5 Hz. at present) stipulated in the IEGC.

12. Section 55 of the Electricity (Supply) Act, 1948 provides that the Regional Load Despatch Centre, shall be the apex body to ensure integrated operation of the power system in the region. It empowers the Regional Load Despatch Centre to give such directions and exercise such supervision and control as may be required for ensuring integrated grid operation and for achieving the maximum reliability and security in the operation of power system in the region under its control. Every person connected with the operation of the power system, be it a licensee, a generating company or the Board, is bound to comply with the directions issued by the Regional Load Despatch Centre, whether such a direction is considered reasonable or otherwise though they might contest it later, if necessary. It can be derived from the IEGC that in times of high frequency, the generating stations under the control of the utilities should back down when necessary or shed load in times of low frequency, as directed by the Regional Load Despatch Centre. This direction was reiterated in the Commission's order dated 17-8-2000 in Enquiry No.1/2000 (Enquiry into grid disturbances on 25th July, 2000 in the Eastern Region) wherein it was directed

that "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" and " all SEBs shall voluntarily initiate such actions as backing down in times of high frequency or shed load in times of low frequency". These directions were communicated to Central/State utilities in all the regions. The manner of preparation of daily schedule by the petitioner on the inputs supplied by the constituents was also the subject matter of consideration of the Commission in Enquiry No. 1/2000. In the said order it was made clear that the schedule prepared by the petitioner shall be binding on all constituents irrespective of whether or not they agreed with the schedule. It was further directed that the constituents would make workable schedules so that integrity of the grid is not jeopardized.

13. The respondents have not strictly followed the provisions of IEGC and the directions contained in the Commission's order dated 17-8-2000. We reiterate that the schedule prepared by the petitioner and notified to the constituents shall have the same force as that of an agreement between the parties, breach of which involves civil/penal consequences.


14. We take serious view of non-compliance of the provisions of IEGC as also the directions issued by the Commission, from time to time, on the question of maintenance of grid frequency level. However, in view of the affidavits filed by the respondents No. 1&2, we consider it appropriate not to take precipitate

action at this stage. We direct that the respondents No. 1&2 shall remain bound by the undertakings given by them in the affidavits filed by them before the Commission. The violations, if any, in future by the constituents of the Western Region shall be brought to the notice of the Commission by the petitioner through appropriate petitions. Commission will not hesitate to initiate penal proceedings in such cases.

15. We find that some of the directions issued by the petitioner to the respondents are of general nature. We direct the petitioner to issue specific directions whenever any violation of the kind, noted above, is brought to its notice.

16. We also direct that there should be close coordination between WRLDC & WREB Secretariat in all matters relating to system operation.

17. No further directions are considered necessary at this stage. The petition stands disposed off.


(K.N7sinha)
Member

(G.S. Rajamani)
Member



(D.P, Sinha)
Member

New Delhi dated the 0 August, 2001.

