

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

I.A. No. 35/2012

And

I.A. No. 38/2012

In

Petition No. 125/MP/2012

Coram:

Dr. Pramod Deo, Chairperson

Shri S. Jayaraman, Member

Shri V.S. Verma, Member

Shri M. Deena Dayalan, Member

DATE OF HEARING: 26.7.2012

DATE OF ORDER: 30 .7.2012

In the matter of

Effecting proper load management by Northern Region constituents and curbing overdrawl in terms of the Indian Electricity Grid Code and Unscheduled Interchange charges Regulations.

And

In the matter of

Northern Regional Load Despatch Center, New Delhi

..Petitioner

Vs

1. Punjab State Transmission Corporation Ltd., Patiala
2. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
3. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
4. Delhi Transco Ltd., New Delhi
5. Uttar Pradesh Power Transmission Corporation Ltd., Lucknow
6. Himachal Pradesh State Electricity Board, Shimla
7. Power Transmission Corporation of Uttarakhand Ltd., Dehradun
8. Power Development Department, Government of J & K, Jammu
9. Electricity Department, Chandigarh
10. North Central Railway, New Delhi
11. State Load Despatch Centre, Ablowal (Patiala), Punjab
12. State Load Despatch Centre, Panchkula
13. State Load Despatch Centre, Heerapura, Rajasthan
14. State Load Despatch Centre, Delhi
15. State Load Despatch Centre, Lucknow
16. State Load Despatch Centre, Uttarakhand

17. State Load Despatch Centre, Himachal Pradesh
18. State Load Despatch Centre, Jammu and Kashmir **.Respondents**

19. Member Secretary, Northern Regional Power Committee, New Delhi
..Proforma Respondent

Following were present:

Shri V.V.Sharma, NRLDC
Shri V.K.Agarwal, NRLDC
Ms Joyti Prasad, NRLDC
Shri Darshan Singh, SLDC, Delhi

ORDER

The petitioner Northern Regional Load Despatch Centre (NRLDC) has been entrusted with the statutory function to ensure integrated operation of the power system in the Northern Region and to carry out real time operation for grid control and despatch of electricity within the region for secure and economic operation of the Northern Regional grid in accordance with the Grid Standards and the Grid Code. The petitioner had filed the main petition seeking appropriate direction on account continued over-drawl by the constituents of the Northern Region from 1.1.2012 to 25.3.2012. The matter was heard on 3.5.2012 and we had issued notice to the constituents of the Northern Region returnable by 20.5.2012. As the over-drawl from the grid continued unabated, the petitioner filed I.A. No. 25/2012 based on the data of over-drawl from 1.5.2012 o 14.5.2012 and sought appropriate directions to the constituents of the Northern Region to curb over-drawl and to maintain safety and security of the grid. After hearing the petitioner, we had directed the constituents of the Northern Region particularly Uttar Pradesh, Rajasthan, Punjab and Haryana to restrict their over-drawl within schedule to ensure that there was no violation of Regulation 6.4.8, 5.4.2 (a) and

5.4.2(b) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations 2010. We had further directed the constituents of the Northern Region to comply with the directions of NRLDC for maintaining the security of the system.

2. The I.A. and the main petition were heard by the Commission on 31.5.2012. After hearing the petitioner and the representatives of the constituents of the Northern Region, we came to the conclusion that some of the constituents of the Northern Region had resorted to over-drawl from the grid when the frequency was 49.5 Hz or below in violation of Regulation 5.4.2 (b) of the Grid Code. We had issued the following directions in our order dated 10.7.2012:

"22. Considering the seriousness of the situation, notice is issued to Head of State Load Despatch Centers, State Transmission Utilities and State Electricity Boards/the Distribution licensees in the Northern Region as to why they will not be held personally liable for the penalty for non-compliance with the directions of the Commission and provisions of the Grid Code with regard to maintenance of required grid frequency demand estimate and installation of automatic demand management schemes.

23. The petitioner has sought directions to the respondents for ensuring safety and security of the grid and to obviate any possibility of grid disturbance. We are convinced that urgent actions are called for to maintain the grid at the frequency specified in the Grid Code and to ensure smooth operation of the grid. Accordingly, the following directions are issued for strict compliance by the respondents:

- (a) The respondents shall not resort to any overdrawal from the NEW grid when the frequency is below 49.5 Hz. and shall comply with the provisions of Grid Code.*
- (b) The respondents shall ensure that the directions of NRLDC issued under section 29 of the Act are faithfully complied with and compliance of these directions are reported to NRLDC immediately.*
- (c) The respondents shall ensure that the Under Frequency Relays (UFR) are kept in service at all times and the feeders used for load shedding through UFRs are different from the feeders used for manual load shedding so that the security of the grid is not compromised.*
- (d) The respondents shall submit the status of compliance of Regulations 5.4.2 (d) and 6.4.8 as well as Commission`s directions contained in order dated 15.12.2009.*

24. *We direct that it shall be the personal responsibility of the officers in overall charge of the State Transmission Utilities/ State Load Dispatch Centres to ensure compliance of the directions in Para 22 and 23 above and non-compliance of the above directions in any form will be viewed seriously and appropriate actions under provisions of the Act shall be taken.*

25. *The matter will be listed for hearing on 14.8.2012".*

3. The petitioner has filed two Interlocutory Applications, namely I.A. No. 35/2012 and I.A. No. 38/2012, bringing to the notice of the Commission the status of over-drawl by the constituents of the Northern Region for the period from 1.6.2012 to 30.6.2012 and from 10.7.2012 and 16.7.2012 respectively. The petitioner has sought urgent directions to the constituents of Northern Region to desist from the over-drawl from the grid and to comply with the directions of the Commission issued vide order dated 10.7.2012 to ensure the safety and security of the NEW grid. I.A. No. 35/2012 was listed for hearing on 26.7.2012. During the course of the hearing the representative of the petitioner mentioned about the I.A. No. 38/2012. Considering the urgency of the matter, both the IAs were taken up during the hearing.

4. The petitioner in I.A. no. 35/2012 has placed on record the frequency profile of the NEW grid from 1.6.2012 to 30.6.2012. The petitioner has explained that frequency on certain days remained below 49.5 Hz for 70% of the time in the day. On several days the instantaneous frequency went below 48.8 Hz which is the 1st stage of the safety net in terms of under frequency relay setting. The petitioner has further submitted that from the over-drawl data it could be observed that some of the State Control areas are over-drawing from the grid even if the frequency is below 49.5 Hz. In compliance with Section 29 of the Electricity Act, 2003 the petitioner has issued the A, B and C

messages to the defaulting State Control areas from 1.6.2012 to 30.6.2012 as per the following details:

State	Caution Message in line with clause 6.4.7 of IEGC (Message type A)	Message intimating violation of IEGC Section 5.4.2(a) and 6.4.7 (Message type B)	Message intimating violation of IEGC Section 5.4.2(b) and Electricity Act section 29(2)/ 29(3) (Message type C)
UTTAR PRADESH	110	195	66
HARYANA	114	125	9
RAJASTHAN	34	20	1
UTTARAKHAND	58	69	18
J&K	40	60	17
PUNJAB	98	96	8
HIMACHAL PRADESH	14	5	0
DELHI	1	1	0
CHANDIGARH	0	0	0

5. In I.A. No. 38/2012, the petitioner has submitted that despite the direction of the Commission in order dated 10.7.2012 the over-drawl from the grid is still continuing and the order of the Commission and the directions of the NRLDC are not being complied with by some of the constituents of the Northern Region. The petitioner has submitted the status of over-drawl/under-drawl by the constituents of the Northern Region from 10.7.2012 to 16.7.2012 as under:

Date	% of time in the day frequency		Daily Overdrawal (+ve)/ Underdrawal (-ve) by State constituents in Northern Region in MU								
	within 49.5-50.2 Hz	below 49.5 Hz	Uttar Pradesh	Haryana	Punjab	Uttarakhand	Rajasthan	Himachal Pradesh	Jammu & Kashmir	Delhi	Chandigarh
10-Jul-12	95.30	4.50	15.53	23.98	11.29	4.49	10.54	0.34	-0.57	-7.78	-0.80
11-Jul-12	96.11	3.72	26.13	20.51	4.43	2.99	3.67	-0.92	-0.97	-9.12	-0.74
12-Jul-12	93.30	6.60	31.78	15.57	3.79	2.72	-5.69	-1.33	-1.10	-11.79	-0.90
13-Jul-12	99.20	3.50	21.16	15.19	6.98	1.87	-12.21	-0.31	0.43	-2.46	-0.70
14-Jul-12	93.70	4.20	24.48	8.74	7.02	2.30	-7.96	0.10	-2.00	-8.50	-1.24
15-Jul-12	91.10	3.70	27.10	7.70	4.01	2.61	10.61	-0.91	-0.11	-10.43	-1.47
16-Jul-12	70.90	29.10	36.33	0.73	-0.94	3.18	15.01	0.46	0.83	-7.96	-0.73
Average	91.37	7.90	26.07	13.20	5.23	2.88	2.00	-0.37	-0.50	-8.29	-0.94
Maximum	99.20	29.10	36.33	23.98	11.29	4.49	15.01	0.46	0.83	-2.46	-0.70
Minimum	70.90	3.50	15.53	0.73	-0.94	1.87	-12.21	-1.33	-2.00	-11.79	-1.47

6. The petitioner has also given the details of the messages issued to the constituents of Northern Region from 10.7.2012 to 16.7.2012 as under:-

State	Caution Message in line with clause 6.4.7 of IEGC (Message type A)	Message intimating violation of IEGC Section 5.4.2 (a) and 6.4.7 (message type B)	Message intimating violation of IEGC Section 5.4.2 (b) and Electricity Act section 29 (2) / 29 (3) (Message type C)
UTTAR PRADESH	12	15	4
HARYANA	9	8	0
RAJASTHAN	5	9	1
UTTARAKHAND	9	9	1
J & K	1	1	0
PUNJAB	10	5	0
HP	0	1	0
DELHI	1	1	1
CHANDIGARH	0	0	0

7. The petitioner has submitted that the issue of over-drawl has also been taken up with the heads of the respective State Transmission Utility and State Load Despatch Centres through separate letters. Moreover, the issue was also raised in the 23rd TCC/26th NRPC meeting held on 12/13 July, 2012 Northern Region power committee meetings and in the sub-committee meetings. The petitioner has submitted that despite continued efforts, the constituents of the Northern Region are violating the provisions of Clauses 6.4.8, 6.4.7, 5.4.2 (a) and 5.4.2 (b) of the of the Grid Code and Regulation 7 of the Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) Regulation 2009 and Section 29 of the Electricity Act. The petitioner has sought that urgent directions be issued to the NR State Control areas to desist from over-drawl from the grid and to comply with the orders of the Commission dated 10.7.2012 to ensure security of the NEW grid.

8. During the hearing of the petition, the representative of the petitioner submitted that over-drawl by Uttar Pradesh was as high as 43.32 MU per day. For Haryana and Punjab, over-drawl touched 27.83 MU and 18.33 MU per day in the month of June, 2012. In reply to our query as to how the situation should be addressed by the system operator apart from issuing the messages and awaiting the response from the defaulting constituents, the representative of the petitioner submitted that automatic demand management scheme should be put in place by the STUs/SLDC. However, the representative of NRLDC expressed helplessness in taking any punitive measures to curb over-drawl from the grid. The representative of Punjab submitted that it is strictly following the grid code and it is suffering on account of the non-compliance of the grid code by other constituents. He submitted that Commission should issue appropriate directions for strict compliance of the grid code.

9. We have considered the submission of the representative of the petitioner and the representative of Punjab. None of the other constituents of the Northern Region were represented during the hearing. The NEW grid has come to a precarious position on account of non-compliance of the instructions of NRLDC by the State Transmission Utilities/State Load Despatch Centres despite repeated messages and letters written by the petitioner. In our view, the actions of the constituents of the Northern Region are in violation of the provisions of the Electricity Act, 2003 (the Act) and the Grid Code. In this connection, Section 29 (3) of the Act is extracted as under:-

"(3) All directions issued by the Regional Load Despatch Centres to any transmission licensee of State transmission lines or any other licensee of the State or generating company (other than those connected to inter-State transmission system) or sub-station

in the State shall be issued through the State Load Despatch Centre and the State Load Despatch Centres shall ensure that such directions are duly complied with by the licensee or generating company or sub-station."

10. Further Clause 5.4.2 (f) to (h) of the Grid Code is reproduced as under:-

5.4.2 (f) To comply with the direction of RLDC, SLDC may direct any SEB/distribution licensee/bulk consumer connected to the STU to curtail drawal from grid. SLDC shall monitor the action taken by the concerned entity and ensure the reduction of drawal from the grid as directed by RLDC.

(g) RLDCs shall devise standard, instantaneous, message formats in order to give direction in case of contingencies and / or threat to the system security to reduce overdrawal by the bulk consumer, SLDC/ State at different overdrawal conditions depending upon the severity of the overdrawal. The concerned SLDC shall ensure immediate compliance with these directions of RLDC and send a compliance report to the concerned RLDC.

(h) All Users, SLDC/SEB/distribution licensee or bulk consumers shall comply with direction of RLDC/SLDC and carry out requisite load shedding or backing down of generation in case of congestion in transmission system to ensure safety and reliability of the system. The procedure for application of measures to relieve congestion in real time as well as provisions of withdrawal of congestion shall be in accordance with Central Electricity Regulatory Commission (Measures to relieve congestion in real time operation) Regulations, 2009."

11. Regulation 5.4.2 of the Grid Code also provides for demand disconnection in certain circumstances in the interest of safety and security of the grid. The said regulation is extracted as under:-

"5.4.2 (c) Each User/STU/SLDC shall formulate contingency procedures and make arrangements that will enable demand disconnection to take place, as instructed by the RLDCs/SLDC, under normal and/or contingent conditions. These contingency procedures and arrangements shall regularly be / updated by User/STU and monitored by RLDC/SLDC. RLDC/SLDC may direct any User/STU to modify the above procedures/arrangement, if required, in the interest of grid security and the concerned User/STU shall abide by these directions."

12. The Operating Procedure of NRLDC in Clause 7.3 provides for demand control as under:-

"NRLDC may give instructions for demand disconnection under normal and/or contingent conditions. Demand control would have to be exercised under these

conditions by the SLDCs/SEB/distribution licensee/User/bulk consumer, which could be done by either of the following methods or a combination thereof:

- Manual demand disconnection.
- Shutting off or reconnection bulk power consumers having a special tariff structure linked to number of interruptions in the day.
- PC based system for rotational load shedding with faculties for central programming and uploading of the disconnection schedule for the day from the SLDC /Sub-LDC to the substations."

13. In our view, there are provisions in the Act, Grid Code and the Operating Procedure of NRLDC by which the petitioner would be able to ensure demand disconnections in case of over-drawal from the grid. For this, NRLDC is required to pre-identify the feeders in consultation with the concerned STUs/SLDCs which can be opened when the grid is subjected to danger on account of over-drawal. We direct the petitioner to undertake an exercise on time bound basis and identify the feeders in each of the State Control Areas which can be opened in case of any danger to the grid. The petitioner is directed to submit the details of identified feeders with a contingency plan by 13.8.2012. In the event, the constituents do not comply with the directions of NRLDC with regard to overdrawal issued under section 29 of the Act, the petitioner shall take necessary steps to open the identified feeder(s) to the constituent States in order to reduce the over-drawl and restore the grid to the safe operating frequency band.

14. In our order dated 10.7.2012, we had directed that it would be the personal responsibility of the officers in over all charge of the State Utilities/State Load Despatch Centres to ensure compliance of our directions in Para 22 and 23 of the said order. Since, the situation has not improved despite our directions, we direct the Officers-in-charge of the STUs/SLDCs of the States of Uttar Pradesh, Haryana, Punjab,

Uttarakhand and Jammu & Kashmir to personally appear before the Commission on 14.8.2012.

sd/-
(M.DEENA DAYALAN)
MEMBER

sd/-
(V.S.VERMA)
MEMBER

sd/-
(S.JAYARAMAN)
MEMBER

sd/-
(Dr. PRAMOD DEO)
CHAIRPERSON