

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 219/2009

**Coram: Dr. Pramod Deo, Chairperson
Shri S.Jayaraman, Member
Shri V.S.Verma, Member**

Date of Hearing: 24.11.2009

Date of Order: 20.9.2012

In the matter of:

Maintaining grid security of the entire North East West (NEW) grid by curbing over-drawals and effecting proper load management by Northern Regional Constituents.

And

In the matter of:

Northern Regional Load Despatch Centre, New Delhi

Petitioner

Vs

1. Uttar Pradesh Power Corporation Ltd., Lucknow
2. Power Development Department, Govt. of J&K, Jammu
3. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
4. Punjab State Electricity Board, Patiala
5. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
6. Delhi Transco Ltd, New Delhi.
7. Himachal Pradesh State Electricity Board, Shimla
8. Power Transmission Corporation of Uttaranchal Ltd, Dehradun
9. Chandigarh Administration, Chandigarh

Respondent

The following were present:

1. Shri V.K.Agarwal, NRLDC
2. Shri S.R.Narasimhan, NRLDC
3. Shri Sanjay Arora, NRLDC
4. Miss Jyoti Prasad, NRLDC
5. Shri Rahul Srivastava, Advocate UPPCL
6. Shri V.P.Trivedi, UPPCL
7. Shri Y.P.Singh, UPPCL
8. Shri B.C.Pant, UPPCL

ORDER

Through the petition, the petitioner Northern Regional Load Despatch Centre has made the following prayers:

(a) Initiate suitable actions against respondent UPPCL for violation of clause 5.4.2(a), 6.4.7 of the Indian Electricity Grid Code (hereinafter "the Grid Code") and non-compliance of NRLDC`s directions during the months of August and September 2009; and

(b) Direct all the main respondents to comply with clause 5.4.2, 6.4.7 and 6.4.8 of Indian Electricity Grid Code and curb their over-drawals whenever frequency is below 49.2 Hz so that the NEW grid is secure during the coming winter months.

2. Briefly, the facts of the case are that Northern Regional Load despatch Centre (NRLDC) had submitted that entire North-East-West electricity grid was operating in a highly insecure manner during August and September,2009 during which period the frequency was below 49.2 Hz for substantial periods of time as indicated below:

Frequency Range	August 2009	Sep 2009
< 49.2 Hz	25.5%	16.7%
< 49.5 Hz	61.0%	40.2%

3. According to the petitioner, the primary reason for the sustained low frequency was over-drawals by the constituents. The over-drawal position in respect of Northern region constituents for the months of

August and September 2009 (up to 20th Sep 2009) as computed from Special Energy Meter (SEM) data is given below:

State/UT	MWhr over-drawal below 49.2 Hz		No. of time blocks below 49.2 Hz when the State was over-drawing		Average over-drawal below 49.2 Hz	
	August 2009	September 2009	August 2009	September 2009	August 2009	September 2009
UP	158057	22593	720	72	878	1255
Haryana	18544	2515	509	59	146	171
Delhi	21219	544	500	23	170	95
Uttarakhand	15963	995	588	38	109	105
Rajasthan	10424	797	430	31	97	103
HP	5721	624	463	38	49	66
UT Chandigarh	6671	425	662	56	40	30
J & K	4491	2291	289	73	62	126
Punjab	3226	1025	136	30	95	137
Northern Region	157495	22472	714	72	882	1248

* No. of 15-minute time blocks during August 2009, when frequency was below 49.2 Hz. = **720**

** No. of 15-minute time blocks, in September 2009 (up to 20th) when frequency was below 49.2 Hz. = **76**

4. The petitioner submitted that in line with the provisions of Grid Code, it issued different types of messages to the defaulting constituents in real-time with regard to overdrawal from the grid during low frequency period. Briefly, the scheme for issue of different types of message is as given below: The details of the messages are as given below:

Message-Type	Subject Description
Caution message in line with para 6.4.7 of the Grid Code (Message type A)	Intimation of Low frequency operation below 49.5 Hz and request to restrict the drawal within schedule
Violation of the Grid Code para 5.4.2 (a) and 6.4.7	Intimation regarding violation of para 5.4.2 (a) and para 6.4.7 of the Grid Code and directions under para 5.4.2 (b) of the Grid

(Message type B)	Code and 29(1) of Electricity Act, 2003 (the Act) 2003 for immediate action for restriction of overdrawal in order to avert threat to system security
Violation of para 5.4.2 (b) of the Grid Code and Sections 29 (2) and 29(3) of the Act (Message type C)	Intimation of violation of para 5.4.2(b) of the Grid Code and non-compliance of directions under Section 29 of the Act and request for immediate action for curtailing the over-drawal, in the interest of grid safety and security

5. The petitioner has submitted the following details of the messages which were issued to the constituents of the region during the relevant period:

State / UT	Caution Message (type A)		Violation Message (type B)		Violation Message (type C)	
	August 2009	September 2009	August 2009	September 2009	August 2009	September 2009
Uttar Pradesh	68	55	79	46	34	15
Delhi	32	15	35	6	9	0
Uttarakhand	30	15	17	5	3	0
Haryana	43	25	34	9	3	0
J&K	15	33	7	21	1	5
Punjab	32	43	20	26	1	3
HP	7	5	1	2	0	0
Chandigarh	0	5	0	0	0	0
Rajasthan	18	7	14	6	0	0

6. The petitioner has also placed on records the following specific information with regard to Uttar Pradesh Power Corporation Limited (UPPCL), respondent No. 1:

(a) Apart from the above messages issued in real time, messages had been issued at the level of General Manager, NRLDC, Member Secretary, NRPC, CMD, POWERGRID and

Ministry of Power to UPPCL in respect of their unprecedented over-drawals threatening the security of the grid;

(b) The petitioner had also disconnected 220 kV feeders emanating from Meerut (PG) 400 kV substation and Narora Atomic Power Station (NAPS) feeding UP system on several occasions, often at the cost of reducing the reliability of the network, particularly that around NAPS. Further these power regulatory measures from the petitioner had a limited effect as the concerned substations have alternate feed and at the most only 200-250 MW relief was obtained temporarily, against the over-drawal by the State which was well above 1000 MW.

(c) According to petitioner, since Northern Region is electrically connected with Eastern and Western Regions, the above acts of grid indiscipline by respondent No 1 affected the constituents of other regions also, preventing them from drawing even their legitimate share from the grid. Consequently, the petitioner received very strong protests from the aggrieved constituents in this regard.

(d) Due to heavy over-drawals by UPPCL the 400 kV and 220 kV tie-lines in Western and Eastern Regions feeding power towards Northern Region were also getting critically loaded.

Tripping of any of these sections would have definitely resulted in separation of systems and a possible grid collapse.

(e) Fairly conceding that all the constituents of Northern Region had been overdrawing at some point of time or the other, the petitioner stressed that the over-drawal by UPPCL was very large in comparison to that of other constituents in Northern Region during the relevant period of August and September 2009. Further, the number of instances of non-compliance of NRLDC's directions issued in real time to UPPCL far exceeded those of other constituent States.

7. In the light of the foregoing submissions, the petitioner has prayed to initiate suitable actions against UPPCL for violation of paras 5.4.2 (a) and 6.4.7 of the Grid Code and non-compliance of NRLDC's directions issued during the months of August and September 2009 and to direct all the respondents to comply with paras 5.4.2, 6.4.7 and 6.4.8 of the Grid Code and curb their over-drawals whenever frequency is below 49.2 Hz so that the NEW grid is secure.

8. Reply to the petition has been filed by the Uttar Pradesh Power Corporation Limited (UPPCL) vide affidavit dated 30.10.2009.

9. UPPCL in its reply has submitted as under:
- (i) Main reason leading to overdrawal was to its low allocation from Ministry of Power despite Uttar Pradesh being the most populous State of the country;
 - (ii) Against the demand of 7500 MW, availability is around 6700 MW only leading to shortfall of around 800 MW. The 1% shortfall (Capacity of Synchronized NEW Grid) was not likely to bring down the frequency of NEW Grid to alarming low level of less than 49.0 Hz, assuming the same was overdrawn by it;
 - (iii) In the absence of SLDC or one umbrella system which made it quite impossible to convey the message A, B and C received from NRLDC to more than 200 sub-station of 132 kV and more than 50 Sub-stations of 220 kV in few minutes which process takes some time;
 - (iv) over-drawal could not be avoided in the reported months of August and September 2009 due to compelling circumstances such as increase in demand, reduction in availability, non-establishment of SLDC and lower availability of power already tied up with Traders and other State utilities; and
 - (v) Under the compelling circumstances for maintaining the law and order situation, Chairman and Managing Director UPPCL had to pass several orders in the months of August

and September 2009 itself in respect of several cities for exemption from rostering.

10. After hearing the learned counsel for UPPCL, on 24.11.2009, the Commission directed UPPCL to submit the details of estimated demand, power procurement tied up and required as well as actual load shedding done in the State in the previous six months and its plan for load shedding and meeting the demand in future. This direction was communicated to the respondent vide Record of Proceeding dated 3.12.2009, of the above hearing.

11. UPPCL in its supplementary affidavit dated 30.11.2009 has submitted that all possible efforts were being made to avoid over-drawl. On the basis of some data enclosed with the affidavit, It has been claimed that the over-drawl by UPPCL was less in November 2009 (up to 15th) in comparison to previous months. It has also been mentioned that in a meeting held on 30.10.2009, taken by the Directors of the Corporation it was decided that no over-drawl would be permitted at the frequency below 49.5 Hz.

12. Since UPPCL had not submitted the data as directed by the Commission vide the Record of Proceedings, it was again directed, vide Commission's order dated 25.2.2010, to submit the information. UPPCL under its letter dated 16.3.2010 has submitted that the required

information had already been sent vide letter No. 1845/CE(PS)/CERC dated 1.12.2009. The respondent, In its submission dated 16.3.2010, has filed some data regarding the anticipated shortfall in supply during the months of April to September 2010 and the bi-lateral power during the months of April 2009 to February 2010.

13. As regards the main issue raised in the petition viz, over-drawal by the constituents of Northern Region at low frequency and consequent endangering of the NEW grid, it is seen from the data furnished in the petition that many constituents had overdrawn from grid at low frequency during August-September,2009, necessitating issue of "C" messages to them. The brief details are as under:

(a) UPPCL had over-drawn during all the time blocks (720) when frequency was below 49.2 Hz. during the month of August 2009. In the month of September 2009 (up to 20th) out of 76 time blocks in which frequency was below 49.2 Hz., the UPPCL had over drawn during 72 (95 %) time blocks, with the average quantum of over-drawl exceeding 1250 MW. Number of 'C' messages (violation of NRLDC directions and provisions of the Grid Code) issued to UPPCL in the months of August and September 2009 is 34 and 15, respectively.

(b) Delhi Transco Ltd. (DTL) had over-drawn during 500 out of the 720 time blocks, (69%) in the month of August 2009, during

which frequency was below 49.2 Hz. Average quantum of over-drawal by the DTL was 170 MW and 9 'C' messages were issued to DTL during the month

(c) In the month of August 2009, Power development Department (PDD), Jammu and Kashmir had overdrawn in 289 (40%) time blocks, out of 720 time blocks in which frequency had gone below 49.2 Hz. and one 'C' message was issued to the PDD. The PDD had overdrawn during 73 time blocks (96 %) out of total of 76 time blocks in which frequency was below 49.2 Hz during the month of September 2009. Average quantum of over-drawal was 126 MW during the month of September 2009 and five 'C' messages were issued to the PDD.

(d) Number of 'C' messages issued to Punjab State Electricity Board (PSEB) was 1 and 3 with average quantum of over-drawal being 95 and 137 MW during the months of August and September 2009, respectively. PSEB had overdrawn in 136 (19 %) and 30 (39 %) time blocks out of 720 and 76 time blocks in which frequency went below 49.2 Hz. during the above two months, respectively.

(e) Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) had overdrawn during 509 (70%) and 59 (77%) time blocks out of 720 and 76 time blocks during which frequency had gone below 49.2

Hz. during August and September, 2009 respectively. Three 'C' messages were issued to the HVPNL in the month of August 2009.

(f) Power Transmission Corporation of Uttaranchal Ltd. (PTCUL) had overdrawn in 588 (82%) and 38 (50%) out of 720 and 76 time blocks in which frequency was below 49.2 Hz. during the months of August and September 2009 respectively. Three 'C' messages were issued to PTCUL in the month of August 2009.

14. It is observed that though all the States /UTs of Northern region had over-drawn from grid at one or other point of time, 'C' messages were issued to the SLDCs of Uttar Pradesh, Jammu and Kashmir, Punjab, Delhi, Haryana and Uttarakhand, which indicates that these states had contravened the provisions of para 5.4.2 (b) of the grid Code and Section 29 of the Act on a number of occasions during the months of August and/or September 2009.

15. Regarding UPPCL's contention regarding non- establishment of SLDC in the State, it is mentioned that as per Section 31 (2) of the Act until the particular agency is notified by the State Government for operating SLDC, the STU of the State shall operate SLDC. Thus, UPPCL being STU in Uttar Pradesh is responsible for operating SLDC and it would be accountable for the actions by SLDC till some other agency is notified by the UP Govt.

16. From the record available, it is evident that only UPPCL has submitted its reply. No other respondent has submitted its reply. We do not approve of the practice of respondents not to file their response in such a grave matter as grid security.

17. As regards the non-compliance of the directions of NRLDC, it is pertinent to mention that UPPCL has not denied the overdrawal and the receipt of messages from NRLDC. It has given various reasons for overdrawal which are general in nature and do not absolve them of the obligations imposed by the Grid Code and the Act. UPPCL in its reply has accepted that it was not able to ensure the integrated operation of the power system in the State, though it is operating the SLDC. SLDC is not only responsible for ensure integrated operation of power system within the State, it is responsible for ensuring that directions of RLDC are duly complied with by the licensees or generating station or sub-stations.

18. Overdrawal from the grid and non-compliance with the directions of NRLDC are matters of serious concern. The constituents States have failed to discharge their duties under the Act and the Grid Code Regulations. The Commission has been monitoring the overdrawal of the constituents of the Northern Region in subsequent

proceedings and has imposed penalty in appropriate cases. The Commission has also initiated action against the Officer-in-Charge of the STUs and SLDCs of the constituents of the Northern Region for overdrawal from the grid and failure to comply with the provisions of the Grid Code and directions of RLDCs. Considering the above, we do not propose to initiate penal action in the present proceedings and administer a strong warning to the respondents to strictly comply with the provisions of the Grid Code and directions of the RLDCs.

19. Petition is disposed of, with the above directions.

Sd/-

(V.S.Verma)
Member

Sd/-

(S.Jayaraman)
Member

Sd/-

(Dr Pramod Deo)
Chairperson