

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

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

Petition No. 143/2009

In the matter of

Petition under Section 29 of the Electricity Act, 2003 seeking a direction to the constituents of Northern Region to honour the power transfer capability limits for ensuring security of the Indian Electric Power System and seeking notification of regulations on application of congestion charges.

And in the matter of

Northern Regional Load Despatch Centre, New Delhi

..Petitioner

Vs

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

Petition No. 170/2009

In the matter of

Petition under Section 29 of the Electricity Act, 2003 read with relevant provisions of the Indian Electricity Grid Code (IEGC), seeking a direction to the constituents of Northern Region to comply with provisions of the IEGC particularly Section 6.4.12.

And in the matter of

Northern Regional Load Despatch Centre, New Delhi

..Petitioner

Vs

1. Uttar Pradesh Power Corporation Ltd., Lucknow
2. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
3. Punjab State Electricity Board, Patiala
4. Himachal Pradesh State Electricity Board, Shimla
5. Power Transmission Corporation of Uttarachal Limited, Dehradun
6. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
7. Delhi Transco Limited, New Delhi
8. Power Development Department, Govt. of J & K, Srinagar
9. Electricity Deptt., UT Chandigarh, Chandigarh
10. Member-Secretary, Northern Regional Power Committee, New Delhi

.. Respondents

Following were present:

1. Shri V.K.Agarwal, NRLDC
2. Shri S.R.Narasimhan, NRLDC
3. Shri R.K.Porwal, NRLDC
4. Shri Vivek Pandey, NRLDC
5. Shri Joyti Prasad, WRLDC
6. Shri D.D.Chopra, Advocate, UPPCL
7. Shri S.Misra, Advocate
8. Shri V.P.Trivedi, UPPCL
9. Shri Y.P.Singh, UPPCL
10. Shri B.P.Pant, UPPCL
11. Shri Sanjay Arora, HPVNL

**ORDER
(DATE OF HEARING:13.8.2009)**

This petitioner through Petition No 143/2009 filed on 10.7.2009 prayed that the constituents of Northern Region be directed to honour the power transfer capability limits by curbing the overdrawals from the grid so that the Indian electric power system is secure. Besides, the petitioner had also sought notification of the regulations on application of congestion charges with the applicable charges for the Northern Region to be at least equivalent to the

a maximum Market Clearing price (MCP) discovered in the Power Exchange during last one year, i.e. Rs. 15;

2. Subsequently, the petitioner filed Petition No. 170/2009 on 7.8.2009 with the following prayers, namely:

(a) To take up the petition for hearing urgently along with Petition No. 143/2009

(b) To direct the respondents to comply with the provisions of the Indian Electricity Grid Code (IEGC), particularly section 6.4.12, specifically directing respondent No. 1 viz UPPCL to restrict its overdrawal immediately, so that the voltage profile of the Northern grid remains above 380 k V and the system is secure;

3. As the petitioner has raised similar issues in both petitions, they were heard together. The submissions made in the course of the hearing have been brought out in ample details in the record of proceedings dated 13.8.2009, which may be considered as forming part of and be read together with this order. Having heard the representatives of the parties present and perused the material on record, we proceed to dispose off these two petitions through this common order.

4. The petitioner has submitted the following frequency profile of the NEW grid for the months of April, May and June 2009:

Months	Percentage of time frequency		Excursions
	Below 49.5 Hz	Below 49.2 Hz	Below 48.8 Hz
April 2009	56.4	19.6	792
May 2009	30.0	6.6	131
June 2009	49.3	19.3	1144

5. The above data leaves no doubt whatsoever that during the relevant period the grid was operating under precarious condition.

6. It has been submitted by the petitioner that actual power import by the region during July 2009 had crossed 3550 and the maximum simultaneous import capability for nearly 44% of the time. It even crossed 4000 MW for 16% of the time. These instances of violation of the transfer limits, according to the petitioner, resulted in severe low voltage conditions in Northern Region. The voltage at several 400 kV buses in Northern region dropped below 380 kV for considerable periods of time making the system insecure to even a single contingency. It was pointed out that the grid had reached a stage where even a single contingency such as tripping of one pole of Rihand-Dadri HVDC or a trunk 400 kV line or a load centre based generation in Northern Region had the potential to create a major grid disturbance.

7. The petitioner further submitted that in order to facilitate real-time operation, the transfer capability of the Northern regional transmission system was assessed by Northern Regional Load Despatch Centre (NRLDC) after elaborate system studies and discussion with other RLDCs. The transfer

capability is informed to the regional entities through the website as well as through the real-time system. Further, the transfer capability is updated periodically, particularly in case of a change in the load generation balance and the network topology.

8. The petitioner also explained the constraining factors limiting the total transfer capability of Northern Region as the voltages in National Capital Region (NCR) and Western UP areas. The State utilities were advised to take in service all the shunt capacitors installed in their system besides exploiting the reactive power capability of the generating units so that the low voltage problem could be handled.

9. The petitioner has pointed out that the Commission vide its order dated 7.11.2007 made a provision for imposing congestion charge of Rs. 3/- per kWh to be kicked in by the petitioner whenever a situation such as the above stated violation of transfer limits arose. The petitioner recalled that congestion charge was kicked on 31.1.2008 and again on 15.9.2008 when the voltage profile had deteriorated due to violation of transfer limits. The petitioner affirmed that kicking-in of congestion charge had brought about a significant change in the drawals by the constituents.

10. Based on the above experience, the petitioner has submitted that the regulations on congestion charge would be a valuable tool of extreme help in controlling emergent situations in real time. Accordingly, it was prayed that the above regulation be notified urgently in the overall interest of grid safety and security.

11. The petitioner also urged that congestion charge at the rate of Rs. 3 per unit as proposed in the draft regulation would not be adequate under present conditions and suggested that to be a deterrent, congestion charges must be significantly higher or at least equivalent to the maximum Market Clearing Price (MCP) discovered in the Power Exchange during last one year i.e. Rs. 15.

12. During the hearing of the petitions it was stated by the representative of the petitioner that the total transfer capability is much less than the transfer capacity of the link due to various factors affecting the flow of power in an integrated power system. It was highlighted that low voltage condition is one of the important causes limiting the transfer capability of the links in NEW grid. The representative of the petitioner had stated that capacitor installation and under voltage relays are used for mitigating the problem of under voltage. He complained that in spite of the matter having been taken up in different forums of RPC, the States are not installing capacitors and under voltage relays.

14 We observe that there are statutory provisions mandating the constituents to provide protection system as mandated in IEGC and Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations, 2007. In this regard para 4.7 (c) of IEGC prescribes that protection systems are required to be provided by all agencies and constituents connected to the ISTS in coordination with CTU. Besides, para 4.6 (c) ii) and 4.9 a) of IEGC mandate all agencies to provide required

reactive compensation avoiding need for exchange of reactive power to/from ISTS and to maintain ISTS voltage within the specified range.

15 Accordingly, failure by any constituent or agency to provide reactive compensation and protection system as mandated in IEGC, shall amount to non-compliance of the provisions of IEGC. RLDCs and RPCs are directed to report such violations to the commission in accordance with the provisions of IEGC.

16 As regards the prayer for notifying the regulation on application of congestion charge, we are broadly in agreement with the submissions of the petitioner that the same will provide the requisite commercial deterrent for overdrawal by the regional entity and violating the transfer capability limits of corridor/link. We direct the staff to finalise the draft regulation and submit the same for the Commission's consideration.

17. We are dismayed to point out that time and again the Commission had directed the regional entities to refrain from overdrawl and comply with the provisions of IEGC as well as directions by RLDCs, but with little impact. We once again direct all the regional entities and other agencies to comply with the provisions of IEGC and the directions by the RLDCs to ensure grid security. RLDCs are also directed to report through petitions, the specific incidences of repeated non-compliance of the IEGC provisions and non-compliance of their directions by the regional entities.

22. Petitions Nos. 143/2009 and 170/2009 are disposed of with above terms.

sd/- sd/- sd/- sd/-
(V.S.VERMA) (S.JAYARAMAN) (R.KRISHNAMOORTHY) (DR.PRAMOD DEO)
MEMBER MEMBER MEMBER CHAIRPERSON

New Delhi dated the 23rd December 2009