

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Record of Proceedings

Petition No.143/2009

Subject: In the matter of Section 29 of the Electricity Act 2003 read with relevant provisions of the IEGC, seeking 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 charge.

And

Petition No. 170/2009

Subject: In the matter of Section 29 of the Electricity Act 2003 read with relevant provisions of the IEGC, seeking a direction to the constituents of Northern Region to comply with the provisions of IEGC particularly para 6.4.12 so that the system is secure.

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

Date of Hearing : 13.8.2009

Petitioner : Northern Regional Load Despatch Centre

Respondents : Uttar Pradesh Power Corporation Ltd., Lucknow
: Haryana Vidyut Prasaran Nigam Ltd, Panchkula
: Punjab State Electricity Board, Patiala
: Himachal Pradesh State Electricity Board, Shimla
: Power Transmission Corporation of UttaranchalLtd,
Dehradun
: Rajasthan Rajya Vidyut Prasaran Nigam Ltd. Jaipur
: Delhi Transco Ltd, New Delhi
: Power Development Department Government of Jammu
and Kashmir, Srinagar
: Electricity Department, Union Territory of Chandigarh,
Chandigarh

Parties present : Shri V. K. Agrawal, NRLDC
Shri S.R. Narasimhan, NRLDC
Ms. Rajani Powal, NRLDC

Shri Vivek Pandey, NRLDC
Shri V. Venugopal, NRLDC
Ms. Jyoti Prasad, NRLDC
Shri D.D. Chopra, Advocate, UPPCL
Shri Y.P Singh, UPPCL
Shri R.K Johar, UPPCL
Shri V.P. Trivedi, UPPCL
Shri. S. Misra, PTCUL
Shri Sanjay Arora, HVPN
Shri Dinesh Khandelwal, RVPNL

As these two petitions raise the similar issues, both were heard together.

2. General Manager, NRLDC made presentations before the Commission on the two petitions. He submitted that the Total Transfer Capability (TTC) and Available Transfer Capability (ATC) were assessed by the petitioner on real time basis. He mentioned that low voltages, line over-loads and n-1 contingency were the three factors, taken into consideration for arriving at the value of TTC.

3. He adverted to the submissions made by him earlier in respect of Petition No. 137/2009 to highlight the grim grid security situation during June and July 2009 and added that the adverse situation continued in the month of August 2009 in spite of follow up by the petitioner with the constituents of Northern Region.

4. GM, NRLDC submitted that although the inter-regional capacity of the transmission lines was 9000 MW, the TTC was only 3550 MW. He explained that there was difference between capacity and total transfer capability. According to him, capacity of the transmission line related to the volume of

current that it could carry. TTC on the other hand was governed by other factors also, he explained. To a pointed question as to why the CTU laid a transmission line which could not carry the volume of current it had been designed to, GM, NRLDC stated that the power flow on the transmission line was governed by other parameters such as voltages at different nodes, n-1 criteria and the types of load. The Commission observed that if the flow on the transmission line was decided by other parameters the cost involved in the construction of a transmission line would prove to be an infructuous expenditure for which the constituents were paying. GM, NRLDC sought to clarify the issue, stating that the transmission lines were constructed in accordance with the standard norms applicable world over. He drew analogy with roads where there were different cross sections of the roads and bridges, etc. in between. He submitted that transfer capability was restricted on account of bottlenecks. In this regard the Commission observed that if the roads and bridges were not in line with each other and something became the bottleneck, then the bottleneck had to be removed first. Further, the Commission asked as to why to make a road at a place where the bridge was a bottleneck. Similarly, why to make a transmission line which did not allow full capacity of power to flow.

5. GM, NRLDC stated that last year TTC was 2000 MW. The Commission observed that the country as whole had invested in total inter-regional capacity of around 20000 MW whereas CTU had been able to move only 5000 MW. Other constraints, if any, should have been removed first before investing in creation of capacity. The Commission further observed that it would have been understandable, if out of 9000 MW capacity, RLDC was able

to transmit around 7000 MW. However, against 9000 MW, RLDC was able to move only 3000 MW and against 20000 MW, CTU was able to move only 5000 MW. The Commission pointed out that this indicated deficiency in planning which was one of the important roles of CTU.

6. By way of illustration, GM, NRLDC explained that Kankaroli – Jerda transmission line and Agra – Gwalior transmission line had been constructed by CTU, but in the background, Bina – Gwalior transmission line had not come and this created a problem. The transmission system was coming up in a gradual manner. Agra – Gwalior transmission line was D/C quad with a capacity of 1200-1400 MW but on the back Bina – Gwalior transmission line was S/C only, resulting in full power not being flown on the Agra – Gwalior transmission line. Bina – Gwalior transmission line was also a central sector transmission line, he added. The Commission observed that this should also be upgraded. In reply GM, NRLDC stated that all this came through planning process. He also pointed out that the requirement for large power flow existed only for two months. He also emphasized the point that no where in the world TTC and transfer capacity were the same.

7. GM, NRLDC further stated that the constraints were felt only for about three months of the year and in the remaining eight or nine months there were no constraints and no constituent had reported the matter of constraints to the Commission in this regard. In reply to the query by the Commission as to what was the value of TTC during the other months. GM, NRLDC replied that it was between 2800 MW and 3550 MW. He attributed the low value even during the

months when there were no constraints, to the demand from Southern Region during January to April.

8. On a further observation by the Commission that under the above circumstances, investment for creation of 9000 MW capacity when the actual transfer was in the range of 3500 MW, was not prudent, GM, NRLDC explained the process to arrive at TTC, taking into account the load generation balance report.

9. GM, NRLDC stated that there were daily low voltages below 380 kV at Panipat sub-station where there were many generators also. The low voltage, he apprehended, could result in loss of generation of around 800-1000 MW, which might further overload the lines in the area due to power from the eastern part to north-western part of Northern Region.

10. To a query by the Commission about the arrangement for under-frequency and under-voltage protection, GM, NRLDC clarified that capacitor installation and under-voltage relays were used for mitigating the problem of under-voltage. However, inspite of taking up the matter at any of the fora of RPC, the States were not installing capacitors and under-voltage relays.

11. GM, NRLDC specifically pointed out the impact of low voltage at Dadri sub-station. He felt that this was critical as there was 1800 MW of thermal generation at Dadri and Dadri - Rihand HVDC link with 1500 MW capacity. Low voltage at Dadri might result in commutation failure of thyristor at Dadri HVDC terminal and tripping of this link. This would increase the over-load on the parallel AC links resulting in under-voltage and further catastrophe.

12. GM, NRLDC stated that Petition No. 143/2009 was for levying of congestion charges. The Commission vide order dated 7.11.2007 imposed congestion charges provisionally for three months which was extended up to 5.10.2008 and then up to 31.3.2009. Thereafter, there was no real-time mechanism for congestion management with effect from 1.4.2009.

13. GM, NRLDC submitted that on two occasions on which the scheme was applied in the past on 31.1.2008 and 15.9.2008, it had salutary effect by curtailment of over-drawal by the constituents of the Northern Region. He requested for re-imposition of congestion charges at the rate of Rs. 15 per kWh which was the highest price discovered at the Power Exchange (PX). He opined that the erstwhile charge of Rs. 3 per kWh would not deter the constituents.

14. He also pointed out that the present structure of UI charges did not send appropriate commercial signals. He submitted that UI prices were half of market clearing price at the Power Exchanges. He pointed out that the rate structure was so distorted that in Northern Region, the constituents might be encouraged to sell through Power Exchange and simultaneously draw power through UI. It was pointed out that in the Eastern and Western Regions also the prevailing rates would encourage one to buy power from the Power Exchange and sell through UI mechanism. Based on the above, he made out his case for imposing congestion charge.

15. On the issue of whether congestion charge was to be applied in NR only or on all India basis, GM, NRLDC stated that he was representing NRLDC only, but SR was also facing the similar problem in winter.

16. The Commission reserved its order.

Sd/=
(K.S Dhingra)
Chief (Legal)