

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.188/suo-motu/2012

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

DATE OF ORDER:31.8.2012

In the matter of

Calculation of Total Transfer Capacity, Available Transfer
Capability and Transmission Reliability Margin.

**And
In the matter of**

National Load Despatch Centre, New Delhi **Respondent**

ORDER

National Load Despatch Centre in its letter No. POSOCO/NLDC/Tr. Cap dated 2.8.2012, addressed to Member (PS) and Member (G&O), Central Electricity Authority and Executive Director (Engg.-SEF), Central Transmission Utility, with copy endorsed to the Secretary of this Commission, has forwarded a note on "Loading of Extra High Voltage (EHV) transmission elements on the network and its impact on the grid security". It has been proposed in the said letter, that subsequent to the grid disturbance, the basis of assessment of Transfer Capability has been taken as Surge Impedance Limits (SIL) of the lines, instead of stability limit evaluated from St. Clair's curve, or thermal limit, depending upon the line length. The revised limits based on the said

methodology have been implemented w.e.f. 1.8.2012. It has been mentioned in the note that in the antecedent grid conditions of the grid disturbance on 30.7.2012 and 31.7.2012, there was heavy power flow on the Bina-Gwalior-Agra section crossing 1000 MW on the single circuit available. It has been further stated that the 400 KV Gwalior-Agra line is 128 km. long and as per CEA planning criteria, it could be loaded up to the thermal limit of the order of 2500 MW and above. However, it was witnessed in the grid disturbance on the said dates that the antecedent loading of 1000 MW and above on the section had led to cascading effect. Accordingly, NLDC is stated to have reviewed (in consultation with CEA and CTU) the transfer capability of inter-regional and other critical links keeping in view the CERC Regulations and experience during the two grid collapses, till the incidents of grid disturbance are analyzed in detail and the shortcomings in the protective systems in different regions are identified.

2. The Detailed Procedures under the CERC (Grant of Connectivity, long-term access and medium term open access in inter-state transmission & related matters) Regulations, 2009 (Connectivity Regulation) and the CERC (Measures to relieve congestion in real-time operation) Regulation, 2009 (Congestion Regulation), approved by the Commission, already provide for methodology for assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC). It is observed that as a result of the revised methodology being implemented by NLDC w.e.f. 1.8.2012, TTC and ATC have been reduced substantially, giving rise to

market splitting in the Power Exchanges between the Western Region and Northern Region on certain days, thereby restricting the quantum of power flowing between Western Region and Northern Region, and raising the prices in the Power Exchanges.

3. It is not out of place to mention that the grid has been operating satisfactorily with the TTC/ATC calculated as per the method specified in the Connectivity Regulation and Congestion Regulation. NLDC has not brought to the notice of Commission any material to substantiate that there is threat to grid by following the existing method used for calculation of TTC/ATC. Implementation of the revised TTC/ATC in accordance with the procedure not specified in the Regulations amounts to violation of the Connectivity and Congestion Regulations.

4. In view of the above, we direct NLDC to explain the reasons for changing methodology for calculation of TTC/ATC in deviation of the Regulations of the Commission. Pending such clarification and decision of the Commission thereon, the existing methodology for calculation of TTC/ATC should be continued, as per the CERC Regulations. It is however, made clear that NLDC has the liberty to approach Commission through appropriate application for relaxation / deviation from the methodology of calculation of TTC/ATC as specified in the Regulations, with justification.

Sd/-	sd/-	sd/-	sd/-
(M. DEENA DAYALAN)	(V.S. VERMA)	(S. JAYARAMAN)	(Dr. PRAMOD DEO)
MEMBER	MEMBER	MEMBER	CHAIRPERSON