

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 420/ MP/2014**

- Subject : Endangering grid security due to non implementation of contingency demand disconnection scheme for sudden loss of wind generation as per CERC order 120/MP/2011 dated 22.2.2014, non availability of LVRT protection, non scheduling of wind generation CERC (Indian Electricity Grid Code) Regulations, 2010 (IEGC) 6.5.23 (i), lack of necessary demand estimation as per IECG Regulation 5.3 and not providing real time SCADA data to LDC.
- Date of hearing : 18.8.2015
- Coram : Shri Gireesh B. Pradhan, Chairperson  
Shri A.K. Singhal, Member  
Shri A.S. Bakshi, Member  
Dr. M.K. Iyer, Member
- Petitioner : Southern Regional Load Despatch Centre
- Respondents : Tamil Nadu State Load Despatch Centre
- Parties present : Shri V. Suresh, SRLDC  
Shri Ashok Rajan, SRLDC  
Shri Anand K Ganesan, Advocate, IWPA  
Shri Akshi Seem, Advocate, IWPA  
Shri Dharmendra Gupta, IWTMA  
Shri O.A Taneja, IWTMA  
Shri Vikalp Vats, IWTMA  
Shri Mahesh Vipradas, IWTMA  
Shri Anil Dutt, Advocate, PWPL  
Shri C.V. Vetrivelan, PWPL  
Shri K. Ramu, PWPL  
Shri M. Pradeep Sankar, PWPL  
Shri S. Vallinayagam, Advocate, TANGEDCO  
Shri Pankaj Batra, CEA  
Shri Pradeep Dheer,

**Record of Proceedings**

The representative of SRLDC submitted as under:

- (a) As per the direction of the Commission, a special meeting was convened on 20.7.2015 with all the WTG manufacturers, developers, utilities and

institutions. In the said meeting, the following was discussed with regard to implementation of LVRT:

- (i) About 11% of present installed capacity is of 'Stall' type. Since these machines have neither 'pitch control' nor inverter / convertor circuit in turbine side, LVRT is not feasible at machine level even through retrofitting. For remaining 89%, providing LVRT feature is possible. The implementation requirement and cost varies with the type of machine. Some of the machines already have this feature and only this needs to be enabled and tested. Some of the machines require logic/setting modification in the inverter / convertor circuit while some of the machines require separate / independent retrofitting mechanism.
- (ii) Considering number of machines and their owners, implementation is possible only in phased manner. Accordingly, implementation of LVRT should be done in phased manner.
- (iii) It is not possible to have LVRT demonstration as part of 'Type Test' report or WTG technical specification of existing models with immediate effect though the machines are having inbuilt LVRT feature. This is because inclusion of any additional information in the 'type certification' has significant commercial/procedural implication on 'Technology Transfer Agreement'.
- (iv) NIWE confirmed that out of 35 existing models only two models confirmed LVRT compliance in type certification. For others, the manufacturers confirmed the LVRT compliance through declaration/confirmation. Accordingly, WTG manufacturer will issue a separate certificate clearly indicating enabling and effective functioning of LVRT feature from the day of commissioning of the machine. The same needs to be endorsed by the generator/developer for all the existing models of old/new machines. For all new models it shall be part of type certification.
- (v) The developer / applicant shall ensure availability of data to SCADA system of appropriate Load Despatch centre (LDC) and only after ensuring the same, COD of the machine should commence. Certification of SLDC in this regard has to be mandated. Appropriate LDC shall monitor the availability and performance of LVRT feature continuously with analysis on every instance of GD-1 and above and specific instances as communicated by RLDC. LDC shall submit a monthly report of analysis (including 'Nil' report) for discussion in the Protection Co-ordination meeting of RPC and shall take up the matter with Appropriate Commission on any lapses. Accordingly, the appropriate LDC shall be responsible for ensuring effective performance of LVRT mechanism.

2. The representative of SRLDC further requested the Commission to issue following directions for:

(a) Early implementation of LVRT in all the wind turbines (except stall type) in phased manner.

(b) Implementation of LVRT for all solar generators also from the initial state itself. The responsibility for ensuring implementation and performance monitoring may be emphasized to respective LDC similar to that of WTG.

(c) Furnishing detailed action plan for implementation in a phased manner IWPA / IWTMA through respective Load dispatch Centre facilitating monitoring the progress by respective RPC. The direction be issued for entire country.

3. Learned counsel for IWTMA submitted that during the meeting held on 20.7.2015, the details of WTG installation in India has already been submitted as on 31.3.2015. He further submitted as under:

(a) Approximately 11% of total installation is of Stall type WTGs,

(b) The percentage of installation year-wise is also declining and was at mere 1.08% of total installation during the year 2014-15.

(c) Phasing-out of existing Stall type WTGs would take at least 3 to 4 years and manufacturers need to provide service to the existing customers.

4. Learned counsel for IWTMA referred to the Annexure attached with reply filed by IWTMA regarding cost and time for implementation of LVRT in WTGs commissioned prior to 15.4.2014 which is attached with the ROP as Annexure and submitted that for implementation of LVRT on existing WTGs commissioned before 15.4.2014, the economic aspects need to be seen.

5. Learned counsel for Pioneer Wincon, a WTG manufacturer, submitted that the existing Stall type WTGs need to be serviced and that is why components of Stall type WTGs are still being manufactured. He further submitted that since phasing-out of stall type WTG would take at least 3 to 4 years, the Commission should issue direction in this regard.

6. The representative of CEA submitted that CEA has initiated the process of amendment to the Central Electricity Authority (Technical Standards for Connectivity to Grid) Regulations, 2007 to remove ambiguity about the clause mandating provision of LVRT in existing WTGs which were in operation before CEA Regulations on LVRT came in force and to include solar generators except roof-top solar generators. In response to the Commission's query regarding provision of LVRT in large roof-top solar, the representative of CEA submitted that for medium voltage level of 33 kV and above, LVRT is required. However, for 11 kV and below voltage level, LVRT may not be

required. The Commission observed that CEA may take a view about minimum voltage level for LVRT in view of grid security.

7. The Commission observed that there should be a fixed timeline to replace older WTGs in order to harness renewable energy duly considering grid security.

8. After hearing the representative of the petitioner and learned counsels for the respondents, the Commission reserved order in the petition.

**By order of the Commission**



**(T. Rout)  
Chief (Law)**

