

फैक्स/स्पीड पोस्ट /FAX/SPEEDPOST

भारत सरकार केंद्रीय विद्युत प्राधिकरण दक्षिण क्षेत्रीय विद्युत समिति बेंगलूरु - 560 009	 सत्यमेव जयते	Government of India Central Electricity Authority Southern Regional Power Committee Bengaluru - 560 009	
Web site: www.srpc.kar.nic.in	e-mail: mssrpc-ka@nic.in	Ph: 080-22287205	Fax: 080-22259343
सं/No. SRPC/SE-II/2018		दिनांक / Date	12.04.2018

To
As per enclosed list

Sub: Special Meeting on RE related issues -Reg

As you are kindly aware that MNRE had brought out OM dated 01.03.2018 on 'Compliance of WTG model to applicable CEA Technical Standard for connectivity to the grid (as amended from time to time) as stipulated in the MNRE Guidelines / procedure for Revised List of Models and Manufacturer (RLMM)'. Further, there were issues pending in respect of RE as discussed in the Special meeting held on 25.10.2017 and in various TCC/OCC meetings.

Agenda for the meeting is enclosed.

As agreed in the OCC, a special meeting is proposed to be convened at **10:30 hrs on 23.04.2018 (Monday) at NIWE office, Chennai** to discuss the above issues. It is kindly requested to make it convenient to attend the meeting. Kindly ensure participation from the connectivity granting agencies in the state, STU, Discoms, RE wings and the concerned officials.

धन्यवाद /Thanking you,

भवदीय / Yours faithfully



(असित सिंह / Asit Singh)

अधीक्षक अभियंता / Superintending Engineer

संलग्न : यथोपरि / Encl: As above

Copy to:

DG, NIWE, Chennai – with a request o kindly make arrangements for conduct of the meeting.

Mailing list

1. Chief Engineer (GO), APTRANSCO, Vijayawada
2. Chief Engineer (GO), TSTRANSCO, Hyderabad
3. Chief Engineer (Elec.), Load Despatch Centre, KPTCL, Bengaluru
4. Chief Engineer (System Operation), KSEBL, Kalamassery
5. Chief Engineer (Operation), TANTRANSCO, Chennai
6. Chief Engineer (NCES), TANGEDCO, Chennai
7. SE & HOD, Puducherry ED
8. GM, SRLDC, Bengaluru

Agenda for the Meeting on 'RE related issues' to be held at NIWE, Chennai on 23.04.2018

Issues for deliberations:

- OM dated 01st March 2018 of MNRE on 'Compliance of WTG model to applicable CEA Technical Standard for connectivity to the grid (as amended from time to time) as stipulated in the MNRE Guidelines / procedure for Revised List of Models and Manufacturer (RLMM)' is enclosed at **Annexure-I**.
- 1. Self-Certificate for compliance of CEA Technical standard will be accepted for the inclusion of WTG manufacturers /models irrespective of the capacity subject to the following conditions:
 - a) Concerned WTG manufacturers may apply for LVRT testing to any internationally accredited testing body or National Institute of Wind Energy (NIWE) by 15.03.2018, which should include the following:
 - i. An affidavit that the manufacturer would comply with CEA Technical standards for Connectivity to the Grid by 31.03.2019.
 - ii. A bank guarantee of Rs.1 Crore per model, which would be returned on producing the Compliance Certificate for LVRT and other technical standards as stipulated by CEA. A copy of the above mentioned application may also be sent to MNRE.
 - Status update in this regard.
 - Action to be taken by the connectivity granting entities in the state (STU/Discom)
 - b) WTG models for which the manufacturers had provided the self-certification must obtain a certificate from NIWE, Chennai for demonstrating the compliance of applicable CEA Technical standards for Connectivity to the Grid (as amended from time to time); NIWE will carry out the lab simulation for each of the WTG model testing their capabilities of complying to applicable standards and issue a certificate to that effect.
 - Status update in this regard.
 - Action to be taken by the connectivity granting entities in the state (STU/Discom)
 - c) During the self-certificate period, RLMM list will have two tables; one for wind turbines having valid SoC/CS as per CEA Technical standards as stipulated in MNRE guidelines and another table for the wind turbines for which self-certificate along with NIWE's simulation results confirming compliance of CEA Technical standards.

- Status update in this regard.
 - Action to be taken by the connectivity granting entities in the state (STU/Discom)
- d) *Based on report of MNRE/NIWE/ any authorized agency of MNRE for monitoring of compliance to LVRT and related standards, if it is noted that the OEM has submitted the wrong declaration of self-certification then,*
- i. *The wind turbines connected to wind farm will be disconnected.*
 - ii. *The OEM will be barred from installing turbines in India for the period of five years.*
 - iii. *Penalty to an extent of Rs.2 Crores will be imposed.*
- Way forward for the connectivity granting entities in the state (STU/Discom) to be discussed.
- 2. *The Stall regulated wind turbines and the wind turbines with capacity of less than 500 kW are connected at voltage level at 22 kV / 11 kV and below, in the distribution generation (part of mixed feeder) are exempted from submitting SoC/CS for demonstrating their compliance to CEA Technical standards for Connectivity to the Grid (as amended from time to time) as stipulated in the MNRE guidelines/procedure including LVRT requirements.*
- Whether all stall regulated WTGs above 500 kW would have to submit SoC/CS? Whether WTGs less than 500 kW but connected to voltages > 22 kV would have to submit SoC/CS?
- Scope of the above notification – on which WTGs models it is applicable? NIWE may kindly share its views.
- NIWE is kindly requested to arrange for a Presentation on MVAR interchange support by WTGs for grid requirements. Technical capabilities, control jurisdiction, commercial / Tariff etc may need to be covered in this Presentation.
- States are kindly requested to furnish the commercial/tariff /Regulatory provisions in the state in respect of MVAR interchange for wind and solar generators to SRPC/SRLDC by 17.04.2018 (Tuesday). The issue would be discussed in the Meeting.
- Data /information to be furnished:**
- The 4th LVRT / RE issues Meeting was conducted on 25th October 2017 (Minutes available on SRPC website). Number of actionable points had been finalized in the meeting. SRLDC vide letter dated 29.11.2017 (**Annexure-II**) had requested entities to take necessary action and resolve the issues within the time line mentioned. All the state

entities are requested to kindly furnish point by point remarks on the actionable points as mentioned in the letter.

- All state entities are requested to furnish the status update on the upcoming RE projects and the transmission networks (kindly refer the table and Annexure-XLVIII in item No.19 of the 32nd TCC minutes uploaded on SRPC website). It had been noted that RE schemes are getting modified at times while some are getting dropped also.

File No. 293/8/2017-Wind
Government of India/ भारत सरकार
Ministry of New and Renewable Energy/ नवीन और नवीकरणीय ऊर्जा मंत्रालय
(Wind Power Division)

Block No.14, CGO Complex,
Lodhi Road, New Delhi – 110 003
Dated: 01.03.2018

OFFICE MEMORANDUM

Subject: Compliance of WTG models to applicable CEA Technical standards for Connectivity to the Grid (as amended from time to time) as stipulated in the MNRE Guidelines/ procedure for Revised List of Models and Manufacturers (RLMM)- Reg.

The issues and difficulties faced by WTG manufacturers to obtain Statement of Compliance (SoC)/ Conformity Statement (CS) for demonstrating the compliance of applicable CEA Technical standards for Connectivity to the Grid (as amended from time to time) for their WTG models within the stipulated time were examined by this Ministry and the following course of action would be adopted for WTG models which were unable to get LVRT compliance certificate from accredited testing agencies:

1. Self-Certification for compliance of CEA technical Standard will be accepted for the inclusion of WTG manufacturers/ models in the RLMM list until 31.03.2019 for all the wind turbine models irrespective of the capacity subject to the following conditions:

- a. Concerned WTG manufacturers may apply for LVRT testing to any internationally accredited testing body or National Institute of Wind Energy (NIWE) by 15th March 2018, which should include the following:
 - i. An affidavit that the manufacturer would comply with CEA Technical standards for Connectivity to the Grid by 31.03.2019
 - ii. A bank guarantee of Rs. 1 Crore per model, which would be returned on producing the Compliance Certificate for LVRT and other technical standards as stipulated by CEA.

A copy of the above mentioned application may also be sent to MNRE.

- b. WTG models for which the manufacturers had provided the self-certification must obtain a certificate from NIWE, Chennai for demonstrating the compliance of applicable CEA Technical standards for Connectivity to the Grid (as amended from time to time); NIWE will carry out the lab simulation for each of the WTG model testing their capabilities of complying to applicable standards and issue a certificate to that effect.
- c. During the self-certification period, RLMM list will have two tables; one for wind turbines having valid SoC/CS as per CEA technical standards as stipulated in MNRE guidelines and another table for the wind turbines for which self-

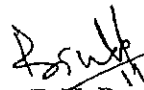
(2/2)

certification along with NIWE's simulation results confirming compliance of CEA technical standards.

- d. Based on report of MNRE/ NIWE/ any authorised agency of MNRE for monitoring of compliance to LVRT and related standards, if it is noted that the OEM has submitted the wrong declaration of self-certification then,
- The wind turbines connected to wind farm will be disconnected
 - The OEM will be barred from installing turbines in India for the period of five years
 - Penalty to an extent of Rs. 2 Crores will be imposed.

2. The Stall regulated wind turbines and the wind turbines with capacity of less than 500 kW which are connected at voltage level at 22 kV/ 11 kV and below, in the distribution generation (part of mixed feeder) are exempted from submitting SoC/ CS for demonstrating their compliance to CEA Technical standards for Connectivity to the Grid (as amended from time to time) as stipulated in the MNRE guidelines/ procedure including LVRT requirements.

3. This issues with the approval of Competent Authority.)


(B.K. Panda)
Director (Wind)

To,

All the Concerned

Copy for information to:

1. PS to Hon'ble Minister
2. Sr.PPS to Secretary
3. PPS to Additional Secretary
4. JS &FA/ JS (BPY)
5. DG, NIWE
6. Director (GU)/ Director (BKP)/ Director (NIC) to upload in MNRE website ✓
7. Scientist 'C'(AHB)/ Scientist 'C'(PKD)



पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड
(भारत सरकार का उद्यम)
POWER SYSTEM OPERATION CORPORATION LIMITED
(A Government of India Enterprise)



दक्षिण क्षेत्रीय भार प्रेषण केंद्र, 29, रेस कोर्स क्रॉस रोड, बेंगलूर - 560 009

दूरभाष : कार्यालय : 080 2225 0047, 2235 2850, 2225 4525, 2225 1169, 2225 5962 फैक्स : 080 2226 8725, 2225 9219
CIN No. : U401050DL2009GOI188682 Southern Regional Load Despatch Centre, 29 Race Course Cross Road, Bangalore - 560 009
Tel : Off : 080 2225 0047, 2235 2850, 2225 4525, 2225 1169, 2225 5962 Fax : 080 2226 8725, 2225 9219 Website : www.srlc.org / www.posoco.in

संदर्भ संख्या / Ref. No.

SRLDC/SO-II/RE-LVRT/2017/

दिनांक / Date :

29-11-17

To

As per list

Sub: Implementation of LVRT in compliance with Hon'ble CERC LVRT order

Ref: 4th RE/LVRT meeting conducted on 25.10.2017 at SRPC Bangalore.

Sir,

4th meeting of RE/LVRT with SR utilities was conducted on 25.10.2017 at SRPC Bangalore, with participation from all SR states, IWPA, SRPC and SRLDC. LVRT implementation, status of regulatory framework for renewable forecasting & Scheduling, MVAR requirements of wind/solar generators, CEA standards for renewables and other aspects of renewable energy generators were discussed during the meeting. The following points needs to be addressed suitably

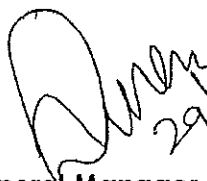
1. Submission of WTG data by all states as per the format circulated by SRPC/SRLDC within one week (i.e. by 06.11.2017).
2. Inclusion suitable clause in the bidding documents to ensure LVRT compliance and provide details of NITs issued after the date of order.
3. Identification of optimal locations for installing PMUs for LVRT analysis purpose.
4. Conducting capacity building workshops regarding Forecasting and scheduling of Renewable sources by states.
5. STUs are requested to study line loading in their systems to ensure N-1 compliance and submit reports in this regard to CEA in compliance with the order.
6. Identifying & implementing "contingency demand disconnection schemes" for the places having large chunk of solar/wind generation to the tune of 1000MW and above.

7. All states are requested to analyze the expected solar generation ramp Up/Down based on their capacity and identify measures for compensating the same.
8. States are requested to take up issue of PPA provisions related to MVAR interchange with respective state commissions for modifying the same to mitigate High voltage scenario in the grid.

Detailed actionable points are attached in the **Annexure. Data/action plan pertaining to above issues yet to be received from all the states.** Hence all utilities are requested to take necessary actions and resolve the issues within time lines mentioned, in order to have strict compliance to **Hon'ble CERC LVRT order**. It is also requested to update the status positively by 5th December 2017, so that the details could be deliberated in in the forthcoming OCC meeting of SRPC.

Thanking you,

Yours faithfully


29/11/2017
General Manager (SO I&I)
SRLDC, Bengaluru

DISTRIBUTION LIST

1. CE KPTCL SLDC, Bangalore
2. CE(GO) SLDC APTRANSCO, Vijayawada
3. CE(GO) SLDC TSTRANSCO, Hyderabad
4. CE SLDC KSEB Ltd , Kalamaserry
5. CE(GO) TANTRANSCO, Chennai
6. SE-I Electricity Deptt ,Puducherry

Copy to:

1. MS SRPC, BENGALURU

GIST OF RE/LVRT MEETING HELD ON 25-10-17 AT SRPC

1. It was noted that data provided by states does not provide exact categorization of WTGs as per SRPC/SRLDC format circulated. Hence states were requested to provide the details under following heads within one week (6th of November).
 - a. LVRT enabled WTGs on self-certification basis
 - b. LVRT available & to be enabled
 - c. WTG design supports LVRT and to be fitted
 - d. WTGs - LVRT to be retrofitted
 - e. WTGs whose useful life going to expire in five years from the date of order.
 - f. WTGs - LVRT not possible (Stall type WTGs)
 - g. WTGs – LVRT exempted as per order
2. Hon'ble CERC directed that *"the solar generators whose bidding process has not yet commenced i.e. NIT has not yet been issued on date of this order shall take necessary steps to implement LVRT in their generating stations"*. In line with these directions all states are requested to include suitable clause in the bidding documents to ensure LVRT compliance and provide details of NITs issued after the date of order.
3. In the earlier meetings of LVRT It was suggested that *"Self declaration of the LVRT (along-with set points) and other provisions meeting requirement of CEA standards could be accepted with the provision that Certificate of Compliance/Type Test as part of Turbine Test Certification would be furnished by 04.01.2018"*. All states are requested to take up with developers on immediate basis, as the final date is approaching.
4. With respect to LVRT monitoring states are requested to proactively identify the optimal locations for installing PMUs and the requirement may be included in the 2nd phase of URTDSM project.
5. It was noted for AP & KARNATAKA final Intra state regulations, for TN & TS draft regulations were issued by respective commissions. KERALA also requested to take up with state commission for the regulations. States are requested to identify the infrastructure requirement like web based scheduling software etc., parallelly to have

- smooth implementation of the regulations. States are requested to have capacity building workshops regarding Forecasting and scheduling of Renewable sources.
6. STUs are requested to study line loading in their systems to ensure N-1 compliance and submit reports in this regard to CEA in compliance with the order at the earliest, as deadline already crossed.
 7. All Renewable rich states are requested to identify & implement "contingency demand disconnection schemes" for the places having large chunk of solar/wind generation to the tune of 1000MW and above.
 8. Sample Solar generation ramp Up/Down was presented for NPKUNTA solar park, similar way all states are requested to analyze the expected Solar generation ramp Up/Down based on their capacity and identify measures for compensating the same.
 9. Upcoming renewable projects and renewable evacuation schemes in Southern Region are given at Annexure by SRPC. It was noted in the SRPC/TCC meetings that RE schemes are getting modified at times while some are getting dropped also. It was observed that timely progress on these schemes needs to be communicated to SRPC Secretariat, being a critical issue monitored by various bodies. RE Projects/evacuation schemes may kindly be reviewed and updated status may be furnished in the meeting.
 10. As first kick of meeting of REMC is going to be conducted shortly, SRLDC requested all the concerned states to get prepared with qualitative inputs in all aspects to have faster implementation of the project.
 11. REACTIVE POWER SUPPORT: It was noticed that sufficient reactive power support could not be obtained from Wind/Solar generators during high voltages due to some provisions of PPA, as learned in various meetings. Hence states are requested to take up the issue with respective state commissions to modify the provisions related to MVAR interchange to mitigate High voltage scenario in the grid. The forum requested to flag the issue in forthcoming meeting of Forum of Regulators.
 12. Forum requested SRPC to communicate IWTMA advising to furnish cost estimate details for LVRT retrofitting of WTGs to developer facilitate their action plan for replacement.

13. Forum pointed out that clarification regarding voltage level; LVRT/HVRT requirements for solar generators from CEA are very much urgently required for the developers for proper implementation of LVRT. The matter may be taken up with CEA.