



RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED

Annexure 2

[Corporate Identity Number (CIN): U40109RJ2000SGC016485]

Regd. Office: Vidyut Bhawan, Janpath, Jyoti Nagar, Jaipur-302005

RVPN

An ISO 9001:2015
Certified Company

OFFICE OF THE SUPERINTENDING ENGINEER (REMC)

SLDC Building, Heerapura, Jaipur Tel. No. 0141-2949776

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No. RVPN/SE (REMC)/XEN-2/F. / /D.

Jaipur

Dated

The Chief Engineer,
RVPNL, Heerapura, Jaipur

SUB:- Minutes of meeting held on dated 03.01.2025 at Vidyut Bhawan Conference, Hall with RE developers / Generators

Kindly find enclosed herewith Minutes of the Meeting held on 3.01.2025 at 11.00 hrs.at Vidyut Bhawan Conference, Hall with RE developers / Generators connected at 132 kV & above voltage level under the chairmanship of the Director (Tech.) and Director (Operations) RVPN to review the compliance status of CEA (Technical Standards for connectivity to the Grid) Regulations and amendment thereof alongwith subsequent CEA directions /clarifications regarding reactive power support to the Grid.

Encl:- MOM, Ann. I & Ann. II.

(S.C.Gupta)
Superintending Engineer (REMC)
Heerapura,Jaipur

Copy to following for perusal and further needful:

1. Sh. K.K. Meena, Director (Technical), RVPN, Jaipur.
2. Sh. S.C. Meena, Director(Operations), RVPN, Jaipur.
3. Sh. Sudhir Jain, Chief Engineer (LD), RVPN, Jaipur.
4. Sh. Manish Athaiya, Superintending Engineer (SSDA-SLDC), RVPN, Jaipur.
5. Smt. Sona Shishodia, Superintending Engineer (P&P), RVPN, Jaipur
6. Sh. D. K. Khandelwal, Superintending Engineer-TA to MD, RVPN, Jaipur.
7. Sh. S.C. Gupta, Superintending Engineer (SOLD), RVPN, Jaipur.
8. Sh. Kamal Patidar, Superintending Engineer (REMC), RVPN, Jaipur.
9. RE Generators as per list enclosed.

Signature valid



Digitally signed by Suresh Chand
Gupta
Designation : Superintending Engineer
Date: 2025.01.25 11:50:54 IST
Reason: Approved

Minutes of Meeting held on dated 03.01.2025 with RE Developers/ Generators

A meeting under the chairmanship of the Director(Tech.) and Director(Operations) RVPN was held on dated 03.01.2025 at 11.00 hrs. at Conference Hall- Vidyut Bhawan with RE developers/ Generators connected at 132 kV & above voltage level to review compliance status of the CEA (Technical Standards for connectivity to the Grid) Regulations and amendment thereof alongwith subsequent CEA directions/ clarifications regarding reactive power support to the Grid.

Following were present in the meeting:-

RVPN

1. Sh. K.K. Meena, Director(Technical), RVPN, Jaipur.
2. Sh. S.C. Meena, Director(Operations), RVPN, Jaipur.
3. Sh. Sudhir Jain, Chief Engineer (LD), RVPN, Jaipur.
4. Sh. Manish Athaiya, Superintending Engineer (SSDA-SLDC), RVPN, Jaipur.
5. Smt. Sona Shishodia, Superintending Engineer (P&P), RVPN, Jaipur
6. Sh. D. K. Khandelwal, Superintending Engineer-TA to MD, RVPN, Jaipur.
7. Sh. S.C. Gupta, Superintending Engineer (SOLD), RVPN, Jaipur.
8. Sh. Kamal Patidar, Superintending Engineer(REMC), RVPN, Jaipur.
9. Smt. Anjana Agrawal, Executive Engineer (REMC), RVPN, Jaipur
10. Sh. K.B. Gupta, Executive Engineer(REMC) RVPN, Jaipur
11. Dr. M.P. Sharma, Executive Engineer-3(SOLD), RVPN, Jaipur
12. Sh. Naresh Agrawal, Executive Engineer-1(SOLD), RVPN, Jaipur

RE Developers/ Generators

As per Annexure-1.

In the meeting the Chief Engineer (LD), RVPN presented the issue of low voltage and voltage oscillations in grid due to heavy MVAR drawl by Discoms and insufficient injection of MVAR by the RE PSS/ Generators against the prescribed norms as per CEA regulations. Detailed presentation was made by REMC/ SLDC (attached at Annexure-2). Following issues were discussed and deliberated in the meeting:

1. CEA Connectivity Regulations/ directions by RE developers regarding Reactive power support to Grid:

The CEA Connectivity Regulations with amendments thereof alongwith CEA's directions/clarifications in this regard were discussed and deliberated in detailed as under:

- i. As per Clause B2 (1) of the CEA (Technical Standards to Connectivity to the Grid) Regulations Amendment 2013:

"The generating station shall be capable of supplying dynamically varying reactive power support so as to maintain power factor within the limits of 0.95 lagging to 0.95 leading".

Signature valid

Digitally signed by Sudhir Jain
Designation: Chief Engineer
Date: 2025.01.03 17:49:23 IST
Reason: Approved

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This has also been specified in IEC Regulation 39(2) of IEGC-23 for compliance by RE Generators.

- ii. Clause B2 (Sub clause 3) of part-2 of Amendment 2019 pertaining to Reactive support during Voltage dips:
"Provided that during the voltage dip, the supply of reactive power has first priority, while the supply of active power has second priority and the active power preferably be maintained during voltage drops, provided, a reduction in active power within the plant's design specifications is acceptable and active power be restored to at least 90% of the pre-fault level within 1 sec of restoration of voltage"
 - iii. Direction imparted by the CEA vide letter dated 12.05.2023 regarding Reactive Power Control:
 - The generating stations shall be capable of dynamically varying supplying reactive power support so as to maintain power factor within the limits of 0.95 lagging to 0.95 leading
 - It may also be noted that the above provisions of the CEA Connectivity Regulations are not being complied in totality. There is necessity for dynamically varying reactive power support during Low Voltage Ride Through (LVRT), High Voltage Ride Through (HVRT) etc as the fixed capacitor banks can provide reactive power support only during steady state and also support is delivered in steps after time delay. Therefore, the requisite dynamically varying reactive power support is a necessary for grid stability and security.
 - RE Generators who have applied for connectivity till 30th April 2023 shall comply with above provisions by 30th September, 2023, else these RE plants would be disconnected.
 - Further, RE Developers who have applied for connectivity after 30th April, 2023, they must comply with above CEA Regulation.
2. Status of compliance of CEA regulations/ directions by RE developers regarding Reactive power support to Grid:

The capability of RE plants for compliance to REMC/ SLDC directions to RE developers regarding Reactive power support to Grid was presented. SE(REMC) apprised that as per grid requirement, directions are being issued by REMC/ SLDC to RE developers to provide reactive power support as per CEA regulations but requisite MVAR support is not provided by RE developers. It was further apprised that:

- 1) REMC vide email dated 29.12.2024 intimated to solar developers SLDC operation code : LD/OP/2912-2901 Dt.29.12.2024 as under:-

"On 30.12.2024 from 10:00 hrs to 14.00 hrs, all connected solar inverters (except connected at 400 kV GSS Jaisalmer-2) be operate in Q-Mode with scheduled MVAR and operate in V-mode after 14.00 hrs."

To check the compliance of REMC/SLDC instruction by solar generators/ developers, hourly scheduled v/s actual MVAR injection data at Pol on 30.12.2024 from 10 hrs to 14 hrs. is gathered and presented by XEN(SOLD). Total 27 nos. Solar feeders of 132 kV and 220 kV voltage level connected to 15 nos. RYPM GSS stations in six districts viz Jodhpur, Bikaner, Jaisalmer, Barmer, Sriganganagar and Nagarkurnool were included in this Survey. It was presented that most of Solar developers are not complying REMC/SLDC directions violating CEA Regulation.

- 2) On 7 & 8 Dec 2024 there were severe voltage oscillations in Rajasthan Grid due to heavy MVAR drawal by Wind generators and non-compliance of LVRT/HVRT norms. To control grid oscillations wind generation curtailment instructions issued by SLDC were not complied timely

Director(Technical) & Director(Operations) directed RE Developers/Generators to comply the CEA Regulations strictly and also intimated that RVPN will initiate disconnection of such RE plants as time line for compliance of CEA regulation by RE developers/Generators has already over by 30th September 2023 and there is already delay of 16 months.

3. Status of installation of Power Plant Controller (PPC) and PQ meters by RE Developers/ generators

It was further apprised that for effectively monitoring and compliance of CEA regulations and SLDC/REMC directions Power Plant Controller (PPC) be installed at plant level and PQ meters at Pol (i.e. on connecting bay of RVPN substation) by RE developers/generators.

The status of installation of Power Plant Controller (PPC) and PQ meters by solar developers connected at 132 kV and above voltage level was presented by XEN(SOLD) and it was apprised that PPC & PQ meters are not installed by some Solar developers/ generators. Solar developers/ generators having installed PPC & PQ meter need shifting PQ meter appropriately.

Director(Technical) & Director(Operations) directed RE Developers/Generators to install PPC & PQ meters and also existing PQ meter shall be shifted at Pol (i.e. RVPN GSS on connecting bay) within 3 months and submit action plan to SE(REMC) within 2 months in this regard.

4. Installation of SVG or any other suitable devices at PSS/ Generators end

The directions imparted by CEA vide letter dated 12.05.2023 regarding dynamically Reactive Power support by RE developers/generators was discussed and deliberated. After detailed discussions & deliberations it was intimated that RE Developers/Generators are required to install requisite capacity SVG or any other suitable devices at their PSS/ Generators to fulfil provisions of CEA regulations regarding dynamically varying reactive power support

Director(Technical) & Director(Operations) directed RE Developers/Generators to install requisite capacity SVG or any other suitable devices at their PSS/ generators within 6 months and submit action plan to SE(REMC) within 2 months in this regard i.e. capacity of SVG or any other suitable devices along with location and time line for installation.

5. Installation of suitable devices/panels for FRT/LVRT/HVRT compliance

SE(REMC) further apprised that as per CEA Connectivity Regulations all RE developers/generators should be FRT/LVRT/HVRT compliant but some of RE developers/generators are non-compliant in this regard.

Signature valid

Digitally signed by Sushir Jain
Designation: Chief Engineer
Date: 2025.06.25 12:49:23 IST
Reason: Approved

SE(REMC) also intimated that in real time grid operation switching ON/OFF phenomenon of WTGs has been observed due to non-compliant WTGs regarding LVRT/HVRT which results steady state low voltage and also voltage oscillation in the Grid. Also due to non-compliance towards FRT/LVRT, during fault and low/high voltage conditions in the Grid some of RE power plants get disconnected which is a matter of concern for frequency control & grid stability. It was further apprised by XEN(REMC) that CEA has shown concern that there have been huge loss of RE Generation to the tune of 10,000 MW during 2022-23 owing to such reason.

After detailed discussions & deliberations it was intimated that RE Developers/Generators are required to install requisite devices/panels for FRT/LVRT/HVRT for CEA regulation compliance.

The Director(Technical) & Director(Operations) directed RE Developers/Generators to install requisite devices/panels for FRT/LVRT/HVRT compliance within 6 months and submit action plan to SE(REMC) within 2 months.

6. Status of telemetered data at SLDC, Heerapura

SE(SSDA-SLDC) apprised that:

- a) As per CEA guideline and CERC & RERC regulations, it is responsibility of RE-Generators to provide real time data to SLDC, Jaipur.
- b) RERC vide Order No. 1296 dated 28.12.2017 has approved procedure for the implementation of framework on Forecasting & Scheduling of Renewable Energy Generating stations (Wind & Solar). As per clause No. 11(c) of RERC Order No. 1296 dated 28.12.17, all RE generators are required to provide telemetry data.
- c) The telemetry certificate is issued by SE(SSDA-SLDC), RVPN, Heerapura to respective RE Generators on being healthy data received at SCADA system at SLDC Jaipur. However, it has been observed that after issuance of telemetry certificate to respective RE Generator, the data stops receiving after one or two years. Even after repeated communication/reminders, the telemetry data are not being restored.
- d) Due to non-availability of data of RE Generators, the reactive power flows from these generators are not properly managed. Proper receipt of data is critical for reactive power management and grid stability.
- e) In view of recent communication received from Ministry of Power, New Delhi regarding the availability of telemetry data of RE Generators at REMC Control Centre, Jaipur, the said data may be transferred after proper telemetry of RE generators at SLDC Control Centre.

Director(Technical) & Director(Operations) directed RE Developers/Generators to ensure to provide real time data to SLDC, Jaipur as per communications of SE(SSDA-SLDC) within 3 months and submit action plan to SE(SSDA-SLDC) within 2 months in this regard.

Director(Operations) assured RE Generators that RVPN is also taking measures to improve Voltage profile. He further impressed upon RE Generators that compliance of above directions for installing PPC & QV meter at POI, SVG of sufficient capacity and providing MVAR support for maintaining proper Voltage at the PSS level is in the interest of all and therefore both RVPN and RE Generators should work in co-ordination.

Director(Technical) & Director(Operations) directed to SE(REMC) / SE(SSDA-SLDC) / SE(SOLD) to closely monitor the progress of the tasks decided in the meeting and report in the next meeting to be organised after 2 months.

Signature valid
Digitally signed by Sunil Kumar
Designation: Chief Engineer
Date: 2025.01.25 17:49:23 IST
Reason: Approved