

Ref: GRID-INDIA/SO/2026/VRE Plant/PMU/

Dated: 04-06-2026

To,

The Additional Secretary
Ministry of New and Renewable Energy
Atal Akshaya Urja Bhawan, CGO Complex
Lodhi Road, New Delhi**Sub: Importance of PMU Data Availability from Variable Renewable Energy (VRE) Generating Stations.**

Dear Sir,

CEA Technical standard for connectivity to the grid mandate telemetry of real time data for monitoring of grid dynamics and secure & reliable grid operation. CEA Guidelines on Unified Philosophy for Placement of Phasor Measurement Units (PMUs) in the Indian Grid provide a uniform framework for placement and installation of PMUs at generating stations and pooling substations. CERC (Indian Electricity Grid Code), 2023 mandates all grid-connected users to ensure continuous and uninterrupted telemetry of real-time operational data, including high-resolution PMU data, to the respective Load Despatch Centers.

PMUs, as part of the Wide Area Measurement System (WAMS), provide time-synchronized measurements that are critical for real time oscillation monitoring, detection of sub synchronous and forced oscillations, dynamic security assessment, post-disturbance analysis and validation of simulation models. It is relevant for real time monitoring as well as for verification of conformity to standards by RE Plants. However, more granular data such as disturbance recorder (DR), inverter level data is not streamed to control center but is essential for further analysis and corrective actions with Inverter based resources.

As on date, 40 msec synchro phasor data from around 2200 PMUs is being assimilated at National and Regional levels and utilized for real-time and offline applications. Out of these, 173 PMUs have been deployed at VRE plants connected to the ISTS network. This presently covers around 64 GW capacity out of the total 171 GW VRE capacity (as of April 2026) being monitored by SLDCs/RLDCs/NLDC.

The status of data availability of these PMUs configured at NLDC for the period from Jan 26- March 26 are enclosed as **Annexure-I**. It may be noted that the quality and availability of PMU data from several VRE plants remain unsatisfactory. The details of PMU data availability from Jan 26 to March 26 have been summarized below:

RE Plant PMU data availability from Jan 26 to March 26					
	0%	(0-25) %	(25-50) %	(50-75) %	(75-100) %
No. of RE plants	7	4	19	16	83

Another pertinent point is that VRE plants having an aggregate capacity of about 107 GW connected at intra-state system, which is nearly 62% of the total VRE capacity PMUs have not yet been installed. Thus, only about 38% of the total VRE capacity connected at ISTS level is observable through the Wide Area Monitoring System (WAMS).

In view of the above, it is kindly requested to use your good office in advising the RE plants

- a) to ensure hundred percent availability of PMU data from their plants to SLDCs/RLDCs/NLDC.
- b) Intra state VRE Plants to install PMUs at their station and coordinate with respective Load Despatch Centre for flow of data to them.

Thanking you,

Encl: As above

Yours faithfully,



राजीव कुमार पोरवाल/Rajiv Kumar Porwal)

निदेशक(प्र. प्रा.),ग्रिड-इंडिया /Director (System Operation), Grid-India

Copy to:

1. Chairperson, Central Electricity Authority, Sewa Bhawan, R. K. Puram – New Delhi
2. Member (GO&D), Central Electricity Authority, Sewa Bhawan, R. K. Puram – New Delhi
3. Member Secretary - NRPC/WRPC/SRPC/ERPC/NERPC
4. Chief Engineer (R&R), MoP, New Delhi
5. Chief Engineer (Renewable Policy & Technology Division), CEA, New Delhi
6. SLDC- Rajasthan/Maharashtra/Madhya Pradesh/Gujarat/Tamil Nadu/Karnataka/Andhra Pradesh/Telangana
7. RE Developer Association- NSEFI/WIPPA/SPDA/IWPA
8. Chairman & Managing Director, Grid-India, New Delhi
9. Executive Director NRLDC/WRLDC/SRLDC, Grid-India

Annexure-I

PMU data availability from Jan 26- March 26

Sr. No.	PMU ID	RE plant	PMU data availability
Northern Region			
1	BDWR2_IP	220Rewa_Badwar-I	99.73
2	AVADA_IP	Avaada RJHN 240MW, Bikaner	99.72
3	AYANA_IP	Ayana Renewable Power, Bikaner	99.71
4	EDEN__IP	EDEN, Fatehgarh_2	99.71
5	SPCEP_IP	Adani Solar Energy Jaisalmer Two Private Limited Project Two, Bikaner	99.66
6	AREPR_IP	RENEW SOLAR POWER Pvt. Ltd, Bhadla	99.46
7	AZRMP_IP	Azure Power Maple Pvt. Limited (AZRMP), Bhadla	98.98
8	APTFI_IP	Azure Power Thirty Four Pvt. Ltd., Bhadla	98.98
9	RAWRA_IP	Adani Solar Energy Jodhpur Two Limited, Bhadla	98.68
10	RMNG2_IP	220Rewa_Ramnagar	98.4
11	JHNOR_GS	220Gandhar(ICT_RE)	98.23
12	AGE24_IP	Adani Green Energy Twenty Four Limited	97.22
13	TPREL_IP	TPREL (Chhayan)	96.77
14	SURJA_IP	SB ENERGY FOUR PRIVATE LIMITED, Bhadla	95.88
15	AWPS2_IP	Adani Wind Park PSS-4 (AWPS2)	95.3
16	CSPJP_IP	Clean Solar Power Jodhpur Pvt Ltd	95.14
17	SGEL__IP	SJVNL Solar Project, Bikaner_2	95.08
18	ASPS1_IP	Adani Solar Park PSS-1 (ASPS1)	94.86
19	DVKOT_IP	NTPC Devikot, Fatehgarh_2	94.54
20	ASPS2_IP	Adani Solar Park PSS-2 (ASPS2)	94.28
21	SPRJ__NT	SINGRAULI SOLAR PV POWER STATION (SPRJ) - Nedan Solar NTPC	94.09
22	BIKNR_IP	Renew Solar Power Pvt Ltd, Bikaner (250MW) (BIKNP)	93.94
23	ASEPL_IP	Avaada Sunrays Pvt. Ltd.	93.73
24	GSPL__IP	GSPL, Bhadla-2	93.73
25	ABCRL_IP	ABC Renewable Energy (RJ-01) Private Limited (ABCRL)	93.71
26	NOKRA_NT	NTPC Nokhra, Bhadla_2	93.09
27	ASJ1S_IP	Adani solar Jaisalmer one Solar	92.92
28	ASJ1W_IP	Adani solar Jaisalmer one Wind	92.91
29	AWPS1_IP	Adani Wind Park PSS-3 (AWPS1)	91.48
30	RSRPL_IP	Renew Surya Ravi Private Limited Bikaner (RSRPL)	91.42
31	TPGEL_IP	Tata Power Green Energy Ltd. (TPGEL)	91.24
32	ESELM_IP	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	91.16
33	GEPL__IP	Green energy Pvt Ltd, Bikaner2	90.81
34	AEGPL_IP	AMP Energy Green Six Pvt. Ltd.	89.33
35	ERAPL_IP	ERAPL,Bhadla_2	87.82
36	RJ3PL_IP	ReNew Solar Energy Jharkhand Three Pvt. Ltd (RJ3PL), Fatehgarh_2	87.33
37	ASEPH_IP	ASEPH, Bhadla	84.8
38	AXPPL_IP	Altra Xergi Pvt. Ltd.	81.9
39	SRI4P_IP	Serentica Renewables India 4 Private Limited	79.78
40	RSUPL_IP	ReNew Solar Urja Private Limited(RSUPL)	79.1
41	AZR41_IP	Azure Power 41	72.45
42	RSDCL_IP	NTPC Nokhra	70.83
43	NRVPL_IP	Neemba Solar Plant Renew Surya Vihaan Pvt. Ltd.	66.48
44	AGE25_IP	AGE25, Bhadla 2	65.51
45	PGPL__IP	PGPL, Bikaner_2	65.13
46	RSBPL_IP	Renew Sun Bright Private Limited (RSBPL)	57
47	ADNHB_IP	Adani Hybrid Energy Jaisalmer One Limited (ADNHB)	54.76
48	EPPL__IP	Energizent Power Private Limited, Fatehgarh_3	54.4
49	AHEJ2_IP	Adani Hybrid Energy Jaisalmer Two Limited (AHEJ2)	54.37
50	FTEGH_IP	Fatehgarh_3 (Powergrid)	50.45

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PMU data availability from Jan 26- March 26

Sr. No.	PMU ID	RE plant	PMU data availability
51	KBNHP_IP	Karinsar Solar Plant NHPC Ltd	50.4
52	RSEPL_IP	RSEPL, Fatehgarh	48.71
53	XXPPL_IP	XL Xergi Power Pvt. Ltd.	48.61
54	ASHPL_IP	ACME DEOGHAR SOLAR POWER PRIVATE LIMITED	48.32
55	RNEWJ_IP	ReNew Sun Waves Private Limited, Fatehgarh-II (RNEWJ)	46.81
56	AHEJ3_IP	Adani Hybrid Energy Jaisalmer Three Limited (AHEJ3)	46.04
57	SKBSL_NT	NTPC Kolayat_1	44.19
58	RERSH_IP	Renew Surya Roshni Pvt. Ltd.	44.17
59	RSDP3_IP	RSDP3, Bhalda_2	42.99
60	RSJPL_IP	Renew Surya Jyoti Pvt. Ltd., Fatehgarh_3	42.44
61	ASER2_IP	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)	41.71
62	MRPL_IP	Mahindra Renewables Pvt Ltd, Bhadla	38.38
63	ARPTL_IP	ARPTL, Bikaner_2	32.93
64	AHPPL_IP	ACME Heergarh Powertech Private Limited (AHPPL)	31.12
65	RSAPL_IP	Renew Surya Ayaan Pvt. Ltd.	29.36
66	ESURL_IP	Essar Urja Ltd., Jodhpur	27.39
67	RSVPL_IP	Renew Surya Vihan Pvt. Ltd.	6.02
68	ACME_IP	ACME, Bhalda	0
69	AZR43_IP	Azure Power Forty Three Pvt. Ltd._RSS	0
70	MSUPL_IP	Mega Suryaurja Private Limited (MSUPL)	0
71	TS1PL_IP	Thar solar 1 Pvt Ltd	0
Western Region			
1	BRST2_IP	220Rewa_Barsaithadesh-II	99.6
2	SHRSH_RE	Sharsha Renewable Substation, Raipur	99.58
3	BWSP2_RE	220Khandwa_Bhawasinghpura	99.54
4	KNHL4_RE	400Solapur_Konholli	98.88
5	JSWF1	JINDHAL SOUTH WEST 1	98.33
6	JSWF3	JINDHAL SOUTH WEST 3	98.23
7	AGAR2_RE	220Pachora_Umariya	96.64
8	SJPR7_RE	220Pachora_Dheripal	96.62
9	KAWI2_RE	220Neemuch_Kawai	95.55
10	DYPR2_IP	220Bhuj_Dayapar-I	94.94
11	MALWA_RE	220Pachora_ChikaliParmar_RE (Blueleaf)	94.27
12	RTDY2_IP	Ratadiya , Bhuj	93.56
13	OSTR2_IP	220Bhachau_Ostro-I	91.62
14	RDNSD_GJ	220Radhanesda_GETCO-I	91.2
15	GDSI2_RE	Gadsisa wind, Bhuj	89.43
16	K2NT2_RE	Khavda_2 Solar Park - Location 2NT2	87.37
17	K1A42_RE	400KhavdaPS1_KPSS2	86.22
18	K1A41_RE	Khavda_1 Solar Park - Location 1A41	84.52
19	VADV2_IP	220Bhuj_Vadva	83.83
20	SITC2_RE	220Bhuj2_Chugger	83.49
21	K1A43_RE	Khavda_1 Solar Park - Location 1A43	81.98
22	K1A45_RE	Khavda_1 Solar Park - Location 1A45	81.25
23	KKRD2_RE	Khakharda Apraava, Jamkhambaliya	81.08
24	PWRI2_RE	220Jamkhambaliya_Manja	79.98
25	JAULA_RE	220Kallam_Jaulala_RE	76.64
26	TGP11_RE	220Kallam_Washi_RE(Teqgreen)	73.59
27	GHTND_RE	220Kallam_Ghatnandur_RE	73.17
28	NARP2_IP	220Bhuj_Naranpar	65.82
29	SDPR2_RE	220Jamkhambaliya_Sidhpur	50.33
30	SBES2_RE	Adani_Wind(SBESS)_Indore	49.27

PMU data availability from Jan 26- March 26

Sr. No.	PMU ID	RE plant	PMU data availability
31	BRND2_RE	Baranda , Bhuj	46.45
32	K1A10_RE	Khavda_1 Solar Park - Location 1A10	45.01
33	SRJN2_IP	Srijan , Bhuj2	44.69
34	JHURA_RE	220Bhuj_JHURA_RE	22.37
35	KTDM2_RE	220Bhuj_Kotdamadh	19.38
36	SJPR8_RE	220Pachora_Surajpur_RE(Taletuttayi)	0.04
37	K2A41_RE	Khavda_2 Solar Park - Location 2A41	0
38	K1A44_RE	400KhavdaPS1_KPSS4	0
39	AGAR1_RE	220Pachora_Ladwan	0
Southern Region			
1	GRTJL	GRT JEWELLERS	98.31
2	RSRPL	RENEW SURYA ROSHINI	98.2
3	ETYPM	ETTAYPURAM	98.21
4	CPSS4	CENTRAL POOLING STATION	98.2
5	RSOPL	RENEW SURYA OJAS PRIVATE LIMITED	98.17
6	KLEIH	KLEIO PSS	98.14
7	KLEIO	KLEIO CSS	98.14
8	GIWPL	Green Infra Wind Power Limited,	97.95
9	SAEL1	SAEL	97.68
10	ZNTRS	ZENETARIES	97.22
11	VEVPL	Vena Energy Vidyuth Private Limited, Gadag	95.24
12	TPREL	Tata power renewable energy ltd, NP Kunta	93.88
13	TPREL	Tata power renewable energy ltd, NP Kunta	93.88
14	SRNTH	SERENTICA HYBRID	93.61
15	IRCON	IRCON	93.58
16	JSWF2	JINDHAL SOUTH WEST 2	92.65
17	AYANA	AYANA	85.91
18	GRNKO	Greenko, Kurnool	85.22
19	OSTRO	HIRIYUR_OSTROKANNADA	52.25